

# LBT-V701/V701CD/V701CDG

## SERVICE MANUAL

*AEP Model*

*E Model*

LBT-V701

*UK Model*

LBT-V701CD/V701CDG

- LBT-V701/701CD/701CDG are composed of following models.

As for the service manual, it is issued for each component model, then, please refer to it.

### COMPONENT MODEL NAME FOR LBT-V701/V701CD/V701CDG

	V701 (AEP, WG, IT)	V701 (E, SaudiArabia)	V701CD	V701CDG
AMPLIFIER	TA-V701	TA-V701	TA-V701	TA-V701
CASSETTE DECK	TC-V701	TC-V701	TC-V701	TC-V701
TUNER	ST-V701L	ST-V701S	ST-V701L	ST-V701L
GRAPHIC EQUALIZER	—	SEQ-V901	—	SEQ-V901
CD PLAYER	—	—	CDP-M77	CDP-M77
TURNTABLE SYSTEM	—	—	PS-V701P	PS-V701P

### SPECIFICATIONS

#### General

Power requirements LBT-V701 (AEP, WG, IT model): 220V AC, 50Hz

LBT-V701 (E, SaudiArabia model): 120, 220 or 240V.

adjustable. 50/60Hz

LBT-V701CD/V701CDG: 240V. 50/60Hz

Power consumption LBT-V701 (AEP, WG, IT model): 110W

LBT-V701 (E, SaudiArabia model): 140W

LBT-V701CD/V701CDG: 240W

AC outlet LBT-V701 (AEP, WG, IT model): 2 unswitched, total 100W max.

LBT-V701 (E, SaudiArabia model): 2 switched, total 100W max.

LBT-V701CD/V701CDG: 1 unswitched, 100W max.

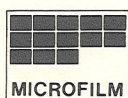
### PARTS LIST

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Part No.	Description
1-465-163-11	(E).....REMOTE COMMANDER (RM-S720E)
1-465-164-11	(AEP,IT,WG)....REMOTE COMMANDER (RM-S720)
1-501-369-11	(AEP,IT,WG,UK)...ANTENNA
1-501-374-01	(AEP,IT,E,UK)....ANTENNA, LOOP
1-558-543-00	(E,UK)...CORD, CONNECTION
1-559-552-41	CORD (WITH CONNECTOR) 5P-11P-11P
1-574-803-11	CORD (WITH CONNECTOR) 11P-15P-15P
★3-570-115-01	CUSHION (for TC)
3-701-806-00	(UK)....ADAPTOR, 45, (E)
3-750-266-11	(AEP,E,UK).....MANUAL, INSTRUCTION (LBT-V701)
3-750-266-41	(AEP,IT,WG).....MANUAL, INSTRUCTION (LBT-V701)
3-750-267-11	(E,UK:V701CDG)...MANUAL, INSTRUCTION (SEQ-V901)
3-786-618-11	(UK).....MANUAL, INSTRUCTION (CDP-M77)
4-914-075-01	CUSHION (SP)
4-920-940-01	SHEET (A), PROTECTION (for TA,TC)
★4-922-998-01	(E,UK)...CUSHION (for SEQ,CDP)
★4-928-405-01	CUSHION (for TA)
★4-928-406-01	CUSHION (for TC)
★4-930-828-01	(UK:V701CD)....INDIVIDUAL CARTON
★4-930-829-01	(E).....INDIVIDUAL CARTON
★4-930-830-01	(AEP,IT,WG)....INDIVIDUAL CARTON
★4-930-834-01	(UK:V701CDG)...INDIVIDUAL CARTON

• WG: West Germany

IT : Italian



9-953-787-11

Sony Corporation  
Audio Group

COMPACT STEREO SYSTEM  
**SONY**®

English  
89D0454-1  
Printed in Japan  
©1989.4

Published by A/V Engineering Service Dept.

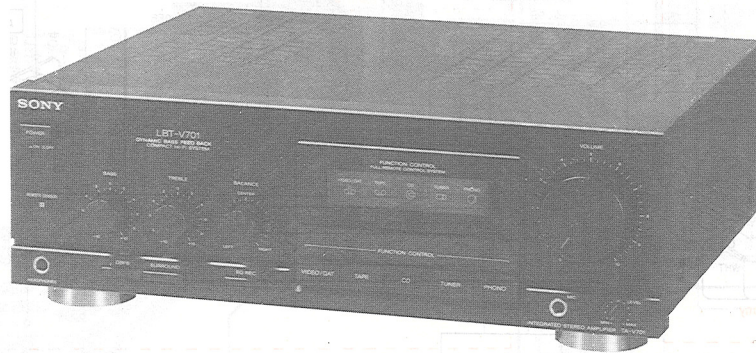


# TA-V701

## SERVICE MANUAL

AEP Model  
UK Model  
E Model

This set is the stereo  
amplifier section in  
LBT-V701/V701CD/V701CDG.



### SPECIFICATIONS

#### Amplifier (TA-V701)

Continuous RMS power output (AEP, UK, West Germany, Italian model)

60 W + 60 W (at 1 kHz, 5% T.H.D.)

Peak music power output: 600 W (E, Saudi Arabia model)

#### Inputs

	Jack type	Sensitivity	Impedance
PHONO IN	Phono	3 mV	50 kohms
VIDEO/DAT IN	Phono	200 mV	50 kohms
CD IN	Phono	200 mV	50 kohms
TAPE IN	Phone	200 mV	50 kohms
MIC	Phone	1 mV	10 kohms

#### Outputs

	Jack type	Voltage	Impedance
VIDEO/DAT	Phono	200 mV	470 ohms
SURROUND SPEAKER	Phono	Accepts speakers of 6 ohms to 16 ohms.	
HEADPHONES	Stereo phone	Accepts headphones of 8 ohms or more.	

#### General

Power requirement (AEP, West Germany, Italian model) : 220V AC, 50Hz

(E, Saudi Arabia model) : 120, 220 or 240V, adjustable, 50/60Hz

(UK model) : 240V, 50/60Hz

Power consumption (AEP, West Germany, Italian model) : 110W

(E, Saudi Arabia model) : 140W

(UK mode) : 240W

AC outlet (AEP, West Germany, Italian model) : 2 unswitched, total 100W max.

(E, Saudi Arabia model) : 2 switched, total 100W max.

(UK model) : 1, unswitched, 100W max.

#### Accessories supplied

Remote commander (1)

Batteries Sony SUM-3 (NS) (2)

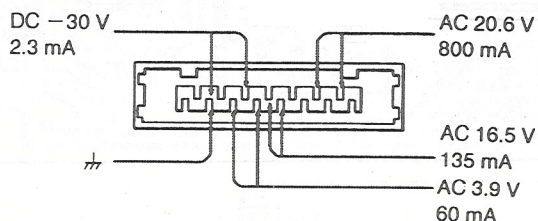
AM loop antenna (1)

FM wire antenna (Except for West Germany model) (1)

45-rpm adaptor (1)

#### SYSTEM CONTROL connector

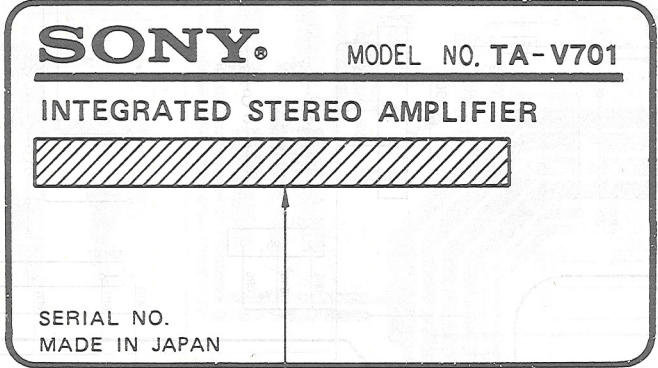
SYSTEM CONTROL 2: 15-pin



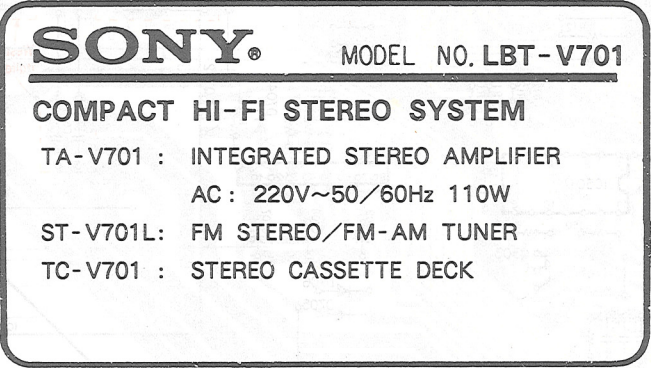
STEREO AMPLIFIER  
**SONY**®



MODEL IDENTIFICATION  
— Specification Label —



West Germany Model :



AEP Model : AC : 220V~50/60Hz  
Italian Model : AC : 220V~50/60Hz 110W  
UK Model : AC : 220V~50/60Hz  
E, Saudi Arabia Model : AC : 120/220/240V~50/60Hz 140W

SERVICING NOTES

On operating voltage

Before operating the unit, check that the operating voltage of your unit is identical with the voltage of your local power supply.

Where purchased	Operating voltage
AEP, West Germany Italian Model	220 V AC
UK Model	240 V AC
E, Saudi Arabia Model	120, 220 or 240 V AC, adjustable with the voltage selector on the rear.

VOLTAGE SELECTOR

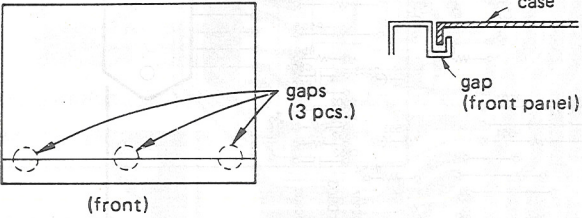
220V 240V 120V

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

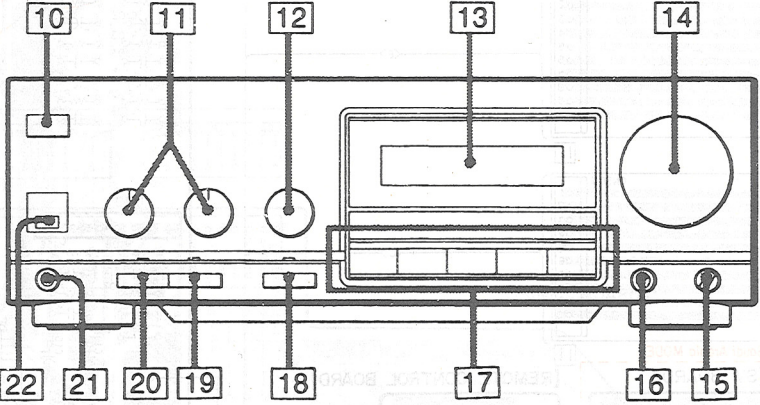
On removing the case

Remove the case by lifting it up straightly above. Unbalanced lifting damages gaps of the front panel assembly for supporting the case.



SECTION 1  
GENERAL

PARTS IDENTIFICATION

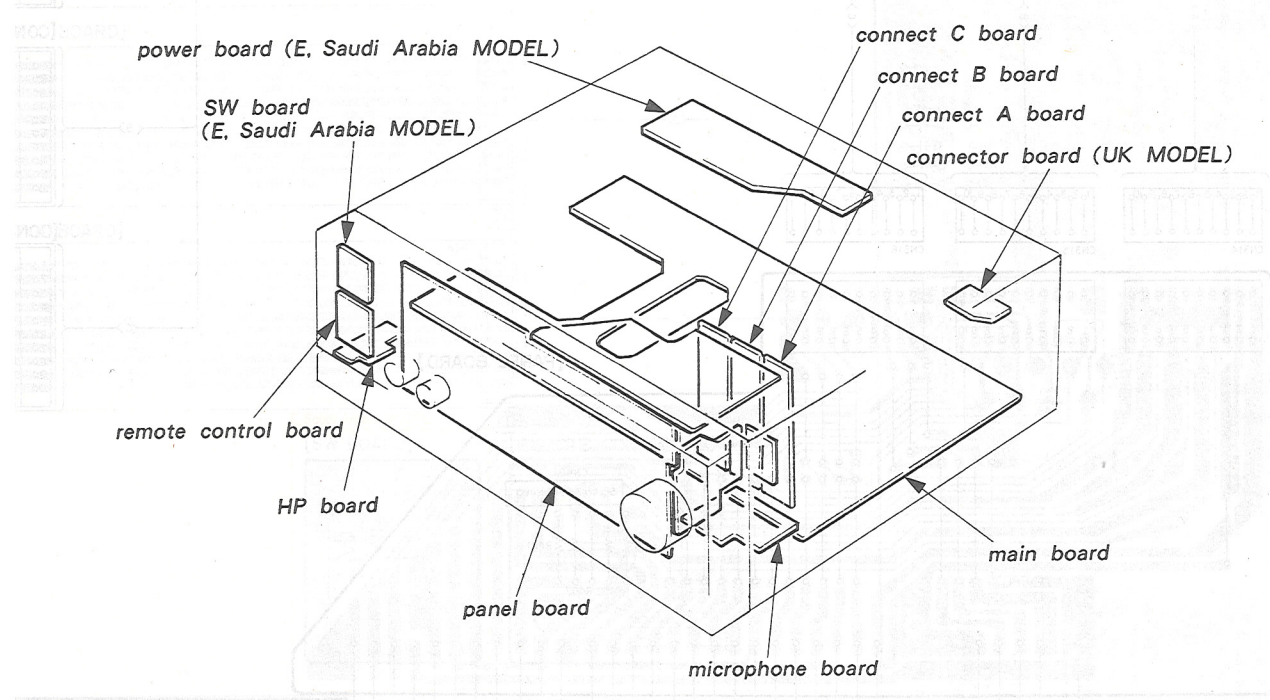


- 10 POWER switch (AEP, UK, West Germany, Italian model)  
SYSTEM POWER switch (E, Saudi Arabia model)
- 11 Tone controls (BASS and TREBLE)
- 12 BALANCE control
- 13 Function display
- 14 VOLUME control
- 15 MIC (microphone) LEVEL control
- 16 MIC (microphone) jack
- 17 FUNCTION CONTROL buttons
- 18 EQ REC (equalizer recording) switch
- 19 SURROUND button
- 20 DBFB (Dynamic Bass FeedBack) button (AEP, UK, West Germany, Italian model)  
SAT (Super Acoustic Turbo) button (E, Saudi Arabia model)
- 21 HEADPHONES jack
- 22 Remote control sensor



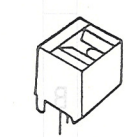
## SECTION 2 DIAGRAMS

### 2-1. PC BOARD LOCATION



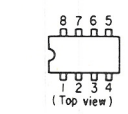
### 2-2. SEMICONDUCTOR LEAD LAYOUTS

GP1U52XB

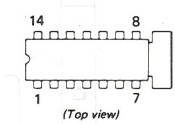


LB1639

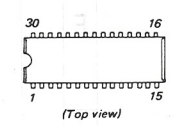
μ PC4570C



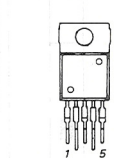
LC4066BH



LC7818

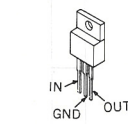


L78MR05

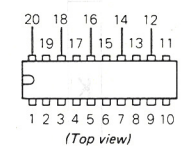


M5F7810

M5F7812

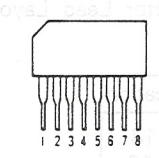


M50721-127P



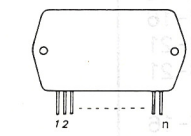
M5218L

μ PC1237HA



STK4152 II

STK4192 II

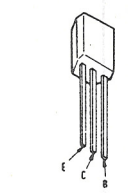


DTA124ES

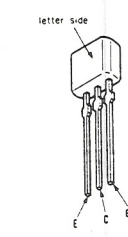
2SC2785HFE

2SC3330-S

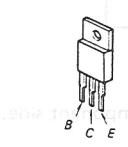
2SC3400



2SA1317

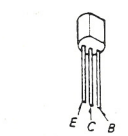


2SB1187F

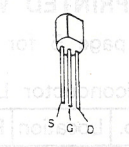


2SC1841

2SC3622AL

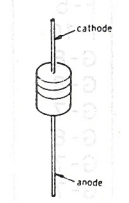


2SK246BL

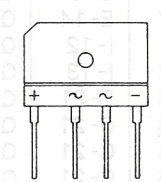


HZS6B1L

UZL-27M



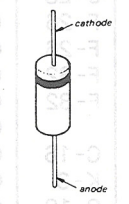
RBV-602-11



RD5.1FB2

US1060M

10E2N

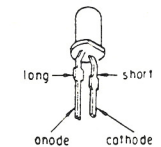


SEL1222R-C

SEL2410E-D

SEL4225RM-D

SEL4825WMCD





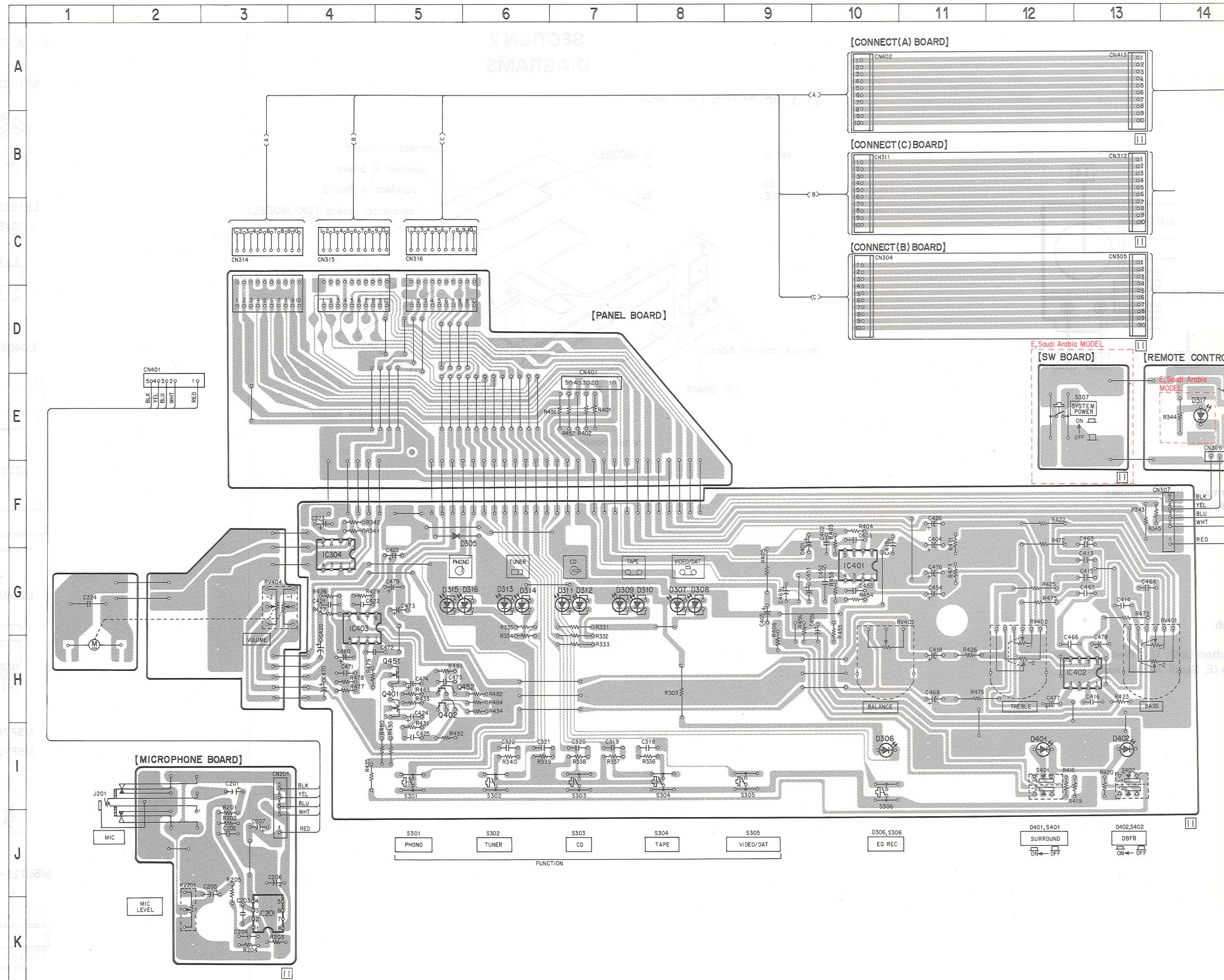
## 2 - 3. PRINTED WIRING BOARDS

● See page 5 for Semiconductor Lead Layouts.

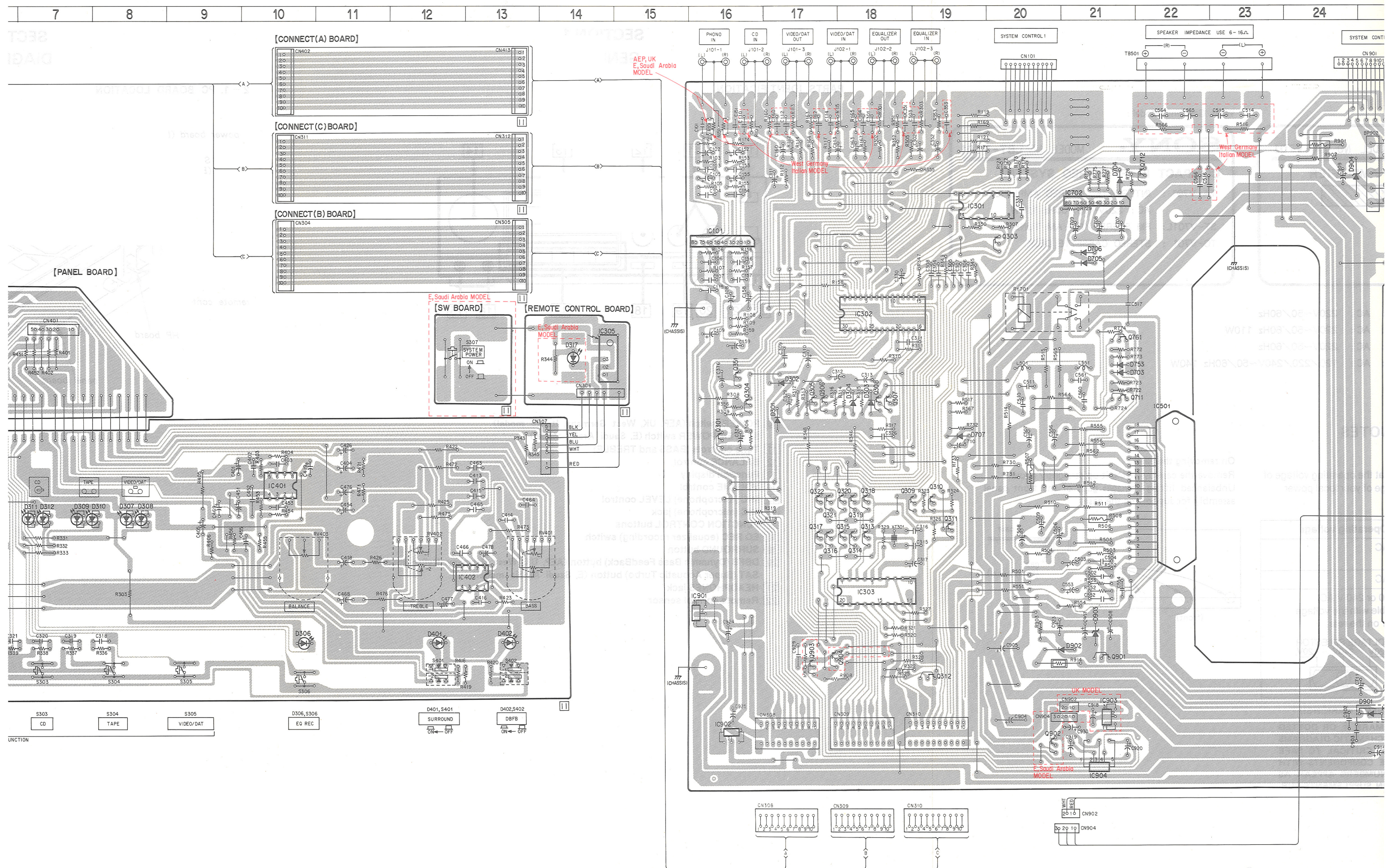
### ● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D301	F-17	IC305	E-14
D302	E-17	IC401	G-10
D303	F-18	IC402	H-13
D304	F-18	IC403	G-4
D305	F-5	IC501	G-22
D306	I-10	IC702	C-21
D307	G-8	IC901	H-16
D308	G-8	IC902	J-16
D309	G-7	IC903	J-21
D310	G-8	IC904	J-21
D311	G-7		
D312	G-7	Q301	F-16
D313	G-6	Q303	C-20
D314	G-6	Q304	F-16
D315	G-5	Q305	F-17
D316	G-6	Q306	F-17
D317	E-14	Q307	F-18
D401	I-12	Q308	F-18
D402	I-13	Q309	G-19
D703	E-21	Q310	G-19
D704	C-21	Q311	G-19
D705	C-21	Q312	I-19
D706	C-21	Q313	G-18
D707	F-19	Q314	G-18
D708	J-25	Q315	G-18
D753	E-21	Q316	G-17
D901	J-25	Q317	G-17
D902	I-20	Q318	G-18
D903	I-21	Q319	G-18
D904	C-24	Q320	G-18
D905	J-28	Q321	G-17
D906	J-28	Q322	G-17
D907	J-28	Q351	E-16
D908	J-28	Q401	H-5
D909	F-26	Q402	H-5
D910	F-26	Q451	H-5
D911	F-32	Q452	H-5
D912	F-32	Q711	F-21
		Q712	C-22
IC101	C-16	Q761	E-21
IC201	K-3	Q901	I-21
IC301	C-19	Q902	J-20
IC302	D-18	Q903	I-17
IC303	H-18	Q904	I-17
IC304	G-4		

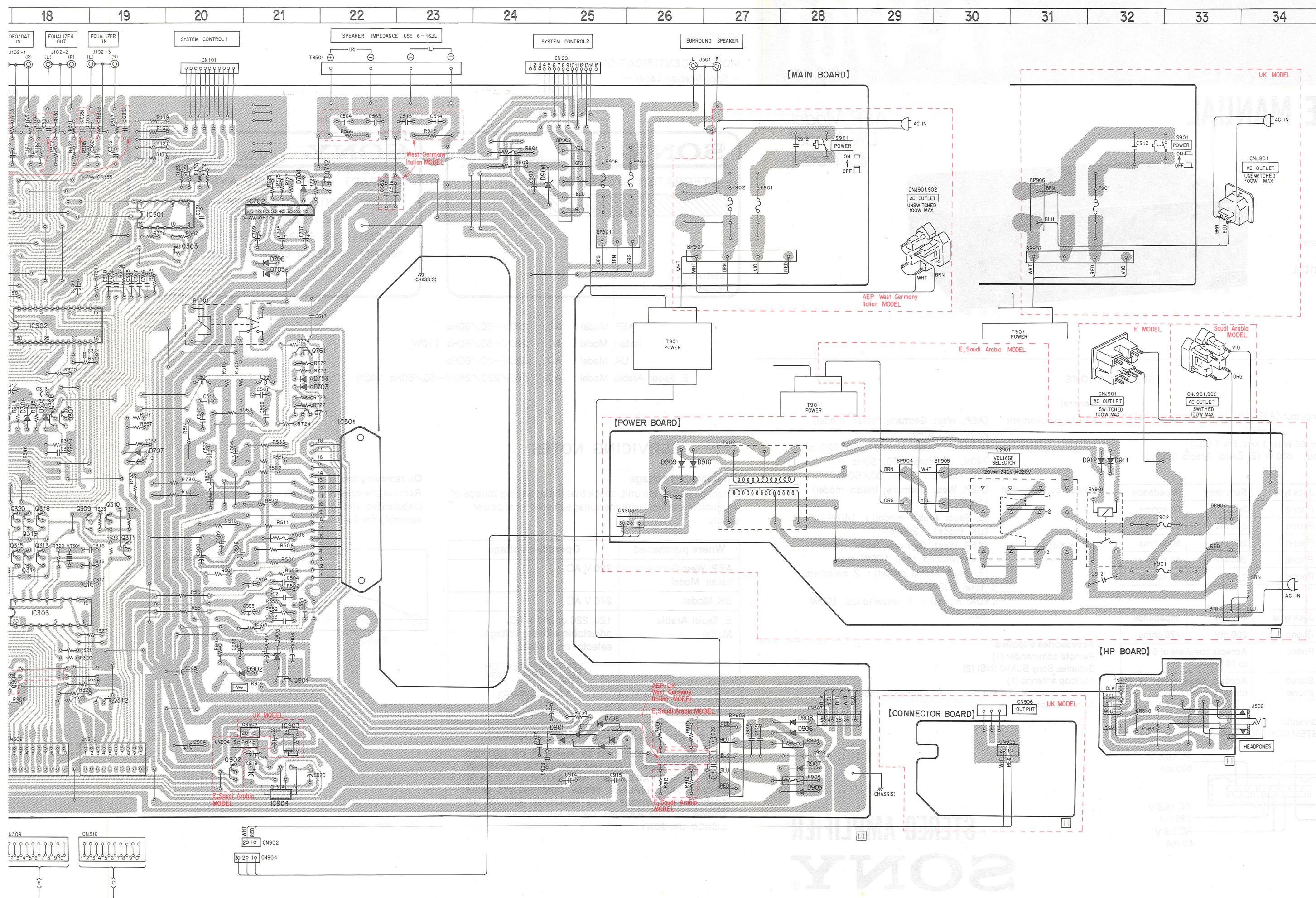
**Note:**  
● ○ : parts extracted from the component side.











[MAIN BOARD]

[POWER BOARD]

[CONNECTOR BOARD]

[HP BOARD]

UK MODEL

E, Saudi Arabia MODEL

E MODEL

Saudi Arabia MODEL

AEP, UK, West-Germany Italian MODEL

E-Saudi Arabia MODEL

E-Saudi Arabia MODEL

E-Saudi Arabia MODEL

E-Saudi Arabia MODEL

E-Saudi Arabia MODEL

E-Saudi Arabia MODEL

E-Saudi Arabia MODEL

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E-Saudi Arabia MODEL

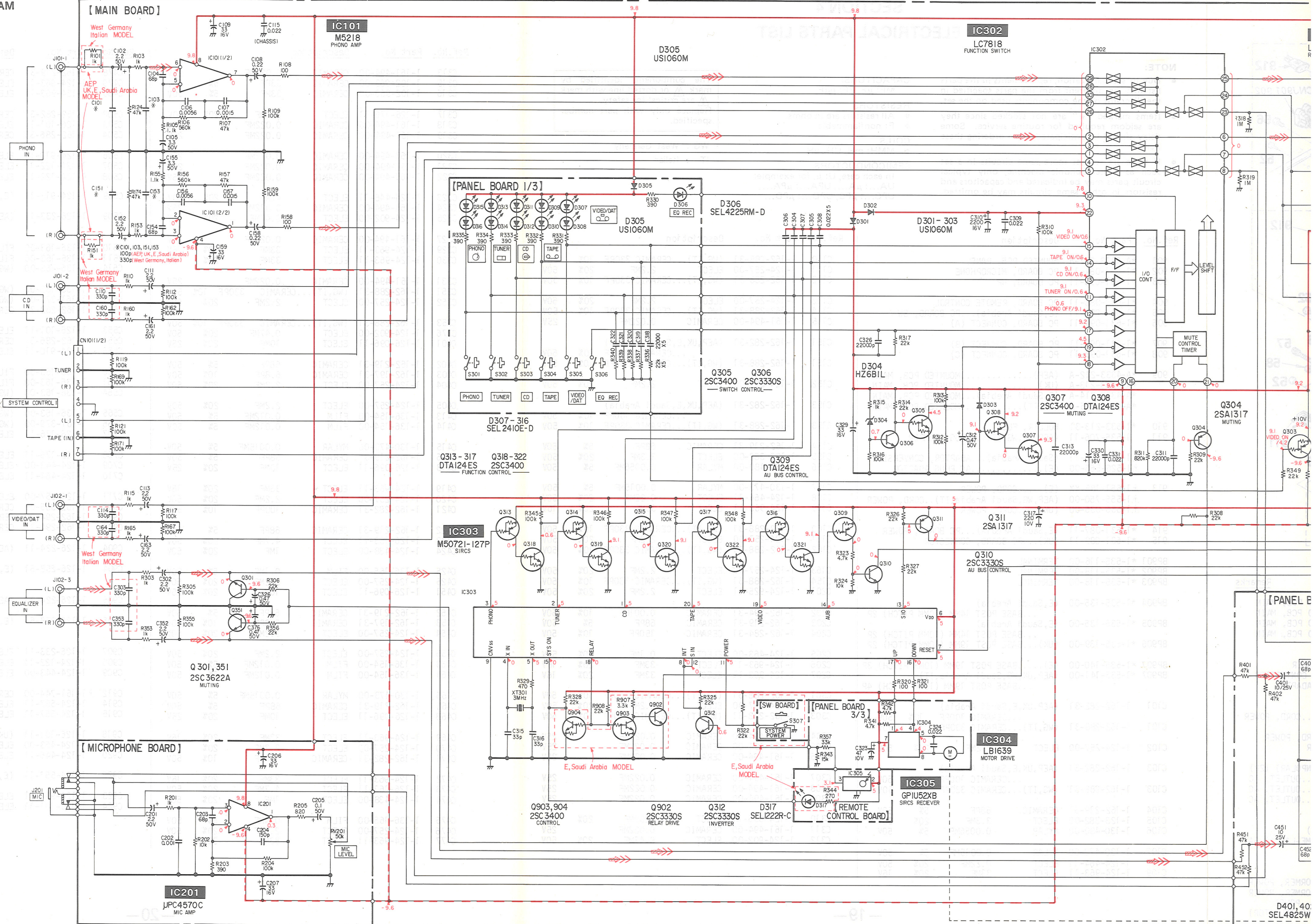
E-Saudi Arabia MODEL

E-Saudi Arabia MODEL

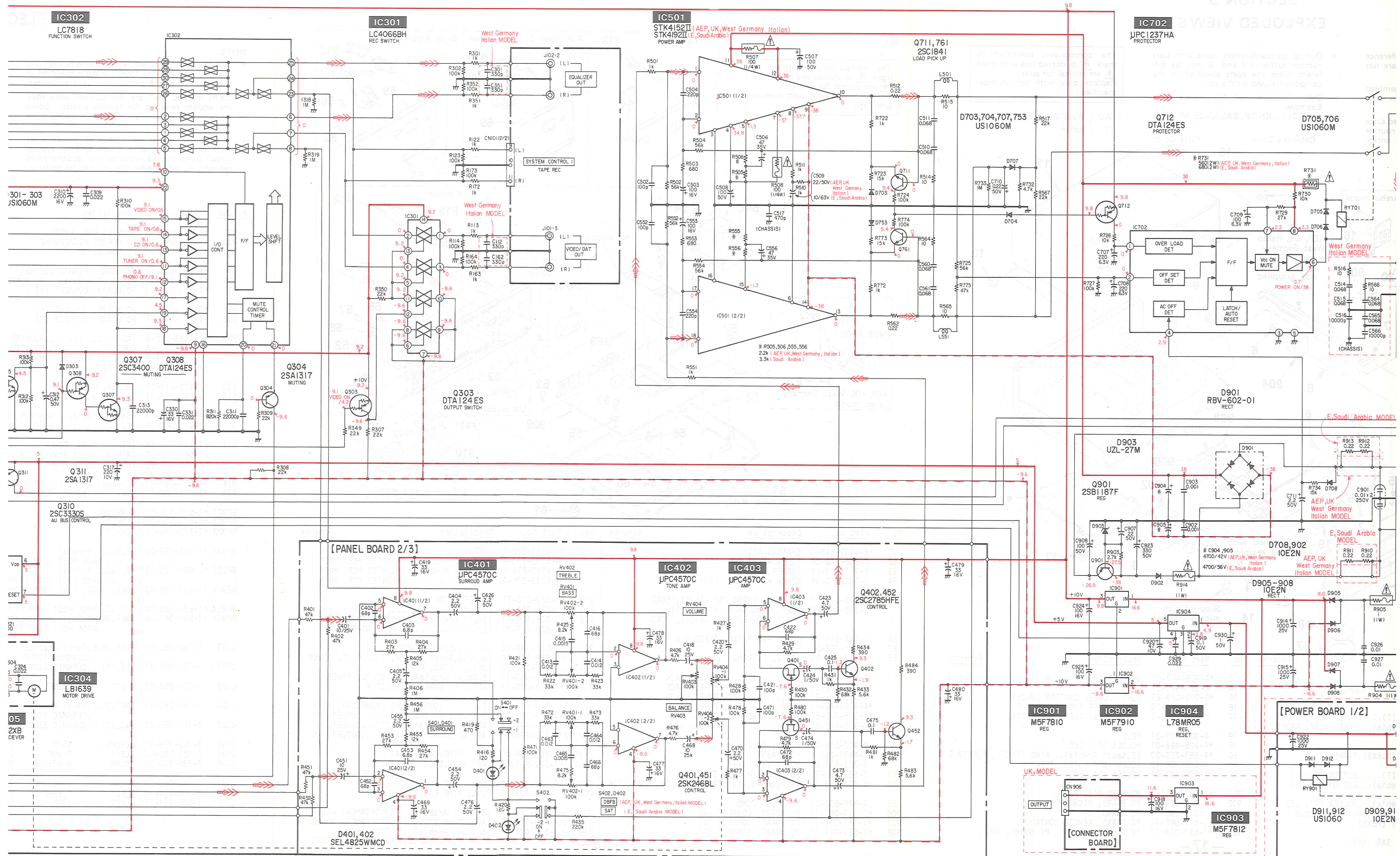
E-Saudi Arabia MODEL



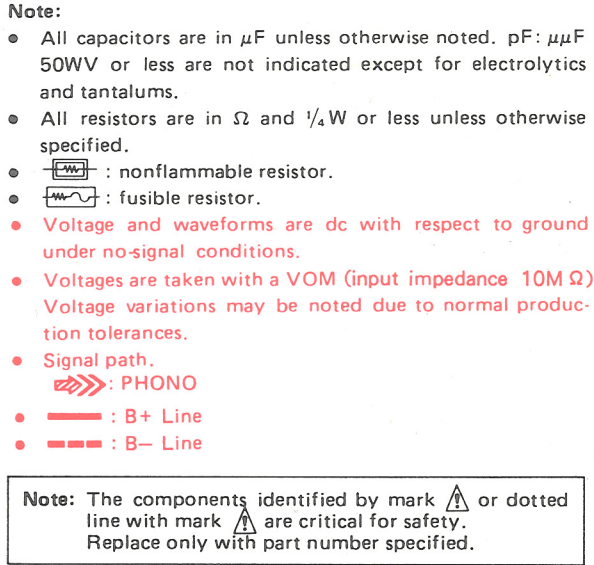
【 MAIN BOARD 】













## SECTION 3 EXPLODED VIEWS



**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts  
Example:  
(RED) ... KNOB, BALANCE (WHITE)

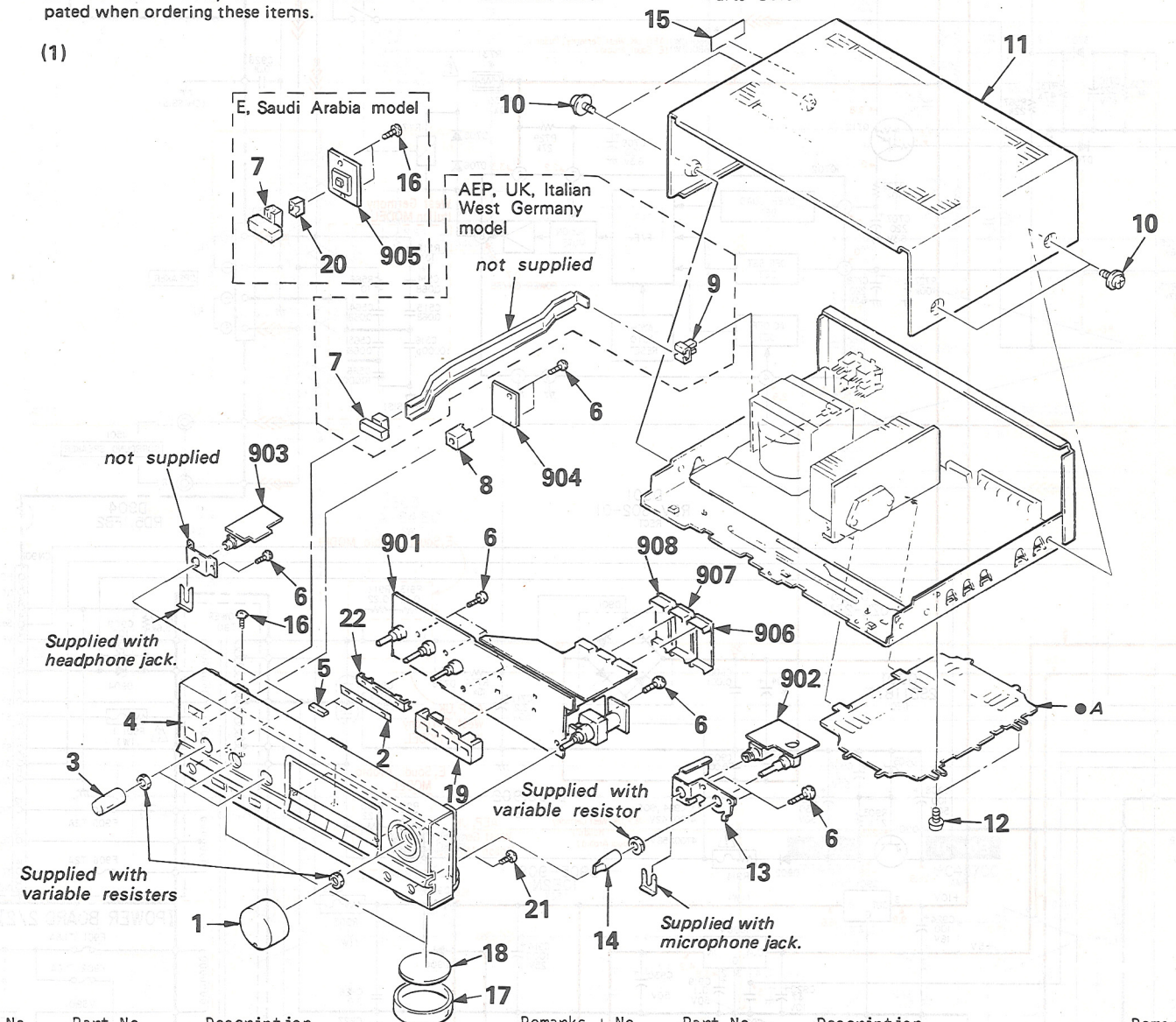
Cabinet's Color

Parts Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

• WG : West Germany  
IT : Italian



(1)

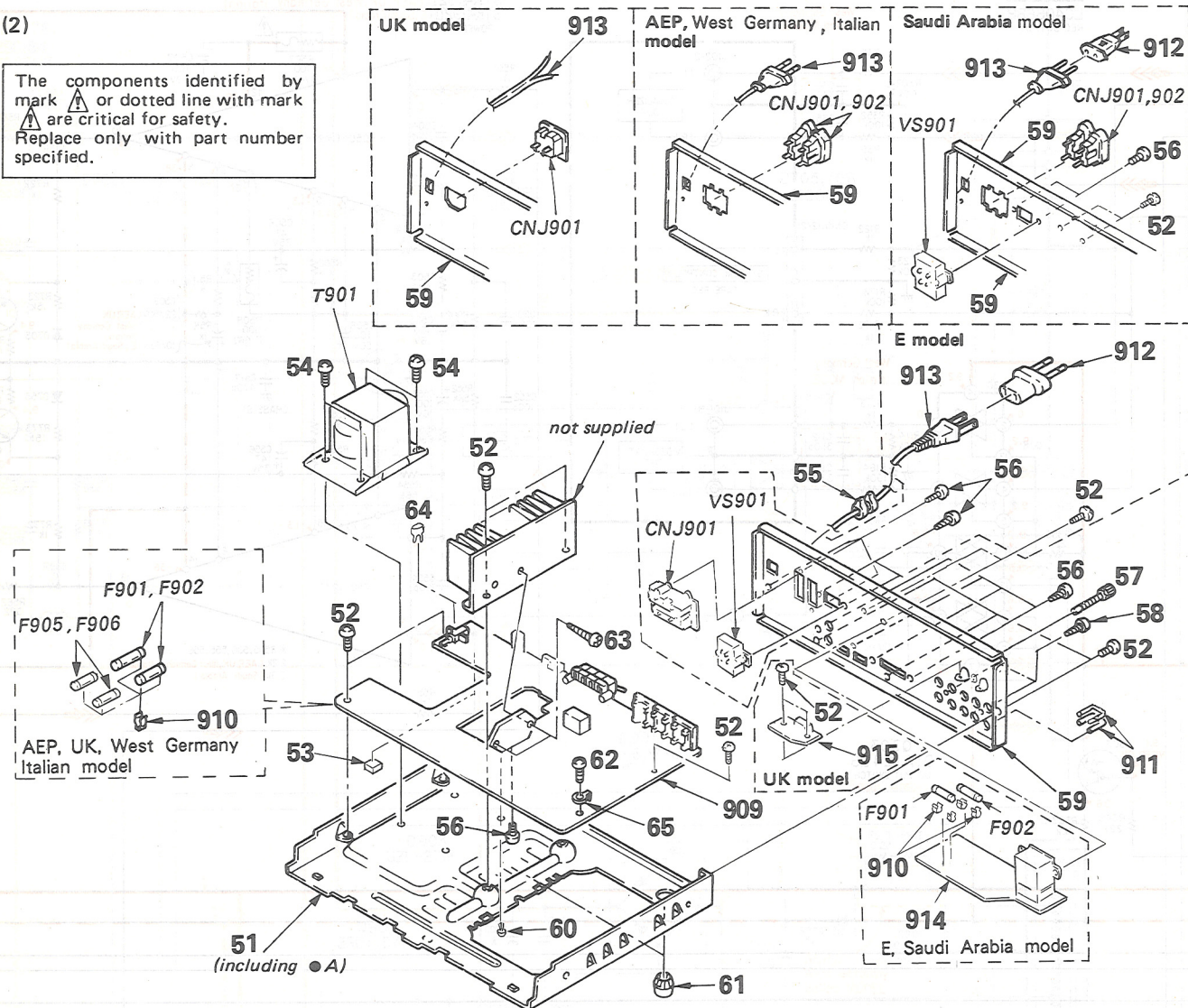


No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	4-925-121-42	KNOB (V2)		13	*4-928-413-01	BRACKET (MIC)	
2	*4-928-410-01	PLATE, LIGHT INTERCEPTION		14	4-921-921-01	KNOB (M)	
3	4-925-188-01	KNOB (TONE)		15	*3-703-079-21	(UK)...LABEL CAUTION (BACK)	
4	X-4917-267-1	(AEP,UK,WG,IT)....PANEL ASSY, FRONT		16	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
	X-4917-268-1	(E,Saudi Arabia)...PANEL ASSY, FRONT		17	X-4917-252-1	PLATE (LEG) ASSY, ORNAMENTAL	
5	4-928-490-01	BUTTON		18	4-928-401-01	FELT	
6	4-928-635-01	SCREW, +BV (2.6X8) TAPPING		19	*4-928-496-01	HOLDER (F), LED	
7	4-921-919-01	(AEP,UK,WG,IT)....BUTTON (POWER)		20	*4-881-725-00	(E,Saudi Arabia)...RING (TACT), FLEXIBLE	
	4-921-919-11	(E,Saudi Arabia)...BUTTON (POWER)		21	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
8	*4-925-182-01	(E,Saudi Arabia)...HOLDER (W), LED		22	*4-925-193-01	HOLDER (D), LED	
9	4-866-342-00	(AEP,UK,WG,IT)...JOINT (B), KNOB		901	*A-4333-217-A	MOUNTED PCB, PANEL	
10	3-704-366-01	SCREW (CASE) (M3X8)		902	*1-631-084-11	PC BOARD, MICROPHONE	
11	4-919-378-31	CASE		903	*1-631-090-11	PC BOARD, HP	
12	7-682-548-04	SCREW +BVTP 3X8 (S)		904	*1-631-085-11	PC BOARD, REMOTE CONTROL	
				905	*1-631-086-11	(E,Saudi Arabia)...PC BOARD, SW	



(2)

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	*X-4917-246-1	CHASSIS ASSY		909	*A-4333-212-A	(AEP).....MOUNTED PCB, MAIN	
52	7-682-548-04	SCREW +BVTT 3X8 (S)			*A-4333-213-A	(UK).....MOUNTED PCB, MAIN	
53	9-911-843-XX	RUBBER, CUSHION			*A-4333-214-A	(E,Saudi Arabia)....MOUNTED PCB, MAIN	
54	7-682-560-04	SCREW +BVTT 4X6 (S)			*A-4333-215-A	(WG,IT).....MOUNTED PCB, MAIN	
55	3-703-571-11	(E)....BUSHING (S) (4516), CORD		910	*1-533-213-31	HOLDER, FUSE	
	*3-703-244-00	(AEP,UK,WG,Saudi Arabia,IT) ...BUSHING (2104), CORD		911	1-535-706-11	(AEP,UK,WG,IT)...PLUG, JUMPER	
56	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		912	Δ1-506-409-11	(Saudi Arabia)...ADAPTOR, CONVERSION	
57	3-706-165-00	SCREW			Δ1-526-565-00	(E).....AC PLUG ADAPTOR	
58	7-621-849-00	SCREW, TAPPING		913	Δ1-551-188-XX	(E)....CORD, POWER	
59	*4-928-482-11	(AEP).....PANEL, BACK			Δ1-555-750-00	(AEP,WG,Saudi Arabia,IT)...CORD, POWER	
	*4-928-482-21	(UK).....PANEL, BACK			Δ1-556-035-00	(UK)....CORD, POWER	
	*4-928-482-31	(E).....PANEL, BACK		914	*1-631-087-11	(E,Saudi Arabia)....PC BOARD, POWER	
	*4-928-482-41	(WG).....PANEL, BACK		915	*1-631-089-11	(UK)...PC BOARD, CONNECTOR	
	*4-928-482-51	(Saudi Arabia)....PANEL, BACK			CNJ901Δ1-540-041-11	(E).....OUTLET, AC (NONPOLAR) (2P)	
	*4-928-482-61	(IT).....PANEL, BACK			CNJ901Δ1-526-751-00	(UK).....OUTLET, AC	
60	4-917-239-01	RIVET, NYLON			CNJ901Δ1-526-794-11	(AEP,WG,Saudi Arabia,IT)...OUTLET, AC	
61	X-4917-254-1	FOOT ASSY			CNJ902Δ1-526-794-11	(AEP,WG,Saudi Arabia,IT)...OUTLET, AC	
62	3-703-685-21	SCREW (+BV 3X8)		F901	Δ1-532-259-00	FUSE, TIME-LAG (1.6A)	
63	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3		F902	Δ1-532-259-00	(AEP,WG,E,Saudi Arabia,IT) ...FUSE, TIME-LAG (1.6A)	
64	*4-875-455-31	(AEP,UK,WG,IT)...COVER(DIA.20), CAPACITOR		F905	Δ1-532-203-00	FUSE, TIME-LAG (2A)	
65	4-870-539-00	PLATE, GROUND		F906	Δ1-532-203-00	FUSE, TIME-LAG (2A)	
906	*1-631-091-11	PC BOARD, CONNECT (A)		T901	Δ1-449-724-11	(E,Saudi Arabia)....TRANSFORMER, POWER	
907	*1-631-092-11	PC BOARD, CONNECT (B)		T901	Δ1-449-725-11	(AEP,WG,UK,IT)....TRANSFORMER, POWER	
908	*1-631-093-11	PC BOARD, CONNECT (C)		VS901	Δ1-571-437-11	(E,Saudi Arabia)....SWITCH, POWER	

## SECTION 4

### ELECTRICAL PARTS LIST

## NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

## CAPACITORS:

MF:  $\mu$ F, PF:  $\mu$ F.

## RESISTORS



- All resistors are in ohms.
- F: nonflammable

## COILS

- MMH: mH, UH:  $\mu$ H

## SEMICONDUCTORS

In each case, U:  $\mu$ , for example:UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

WG: West Germany



IT: Italian

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*A-4333-217-A	MOUNTED PCB, PANEL	C110	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
902	*1-631-084-11	PC BOARD, MICROPHONE	C111	1-124-257-00	ELECT 2.2MF 20% 50V
903	*1-631-090-11	PC BOARD, HP	C112	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
904	*1-631-085-11	PC BOARD, REMOTE CONTROL	C113	1-124-257-00	ELECT 2.2MF 20% 50V
905	*1-631-086-11	(E,Saudi Arabia)...PC BOARD, SW	C114	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
906	*1-631-091-11	PC BOARD, CONNECT (A)	C115	1-161-494-00	CERAMIC 0.022MF 25V
907	*1-631-092-11	PC BOARD, CONNECT (B)	C151	1-162-282-31	(AEP,UK,E,Saudi Arabia) ...CERAMIC 100PF 10% 50V
908	*1-631-093-11	PC BOARD, CONNECT (C)	C151	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
909	*A-4333-212-A	(AEP).....MOUNTED PCB, MAIN	C152	1-124-257-00	ELECT 2.2MF 20% 50V
	*A-4333-213-A	(UK).....MOUNTED PCB, MAIN	C153	1-162-282-31	(AEP,UK,E,Saudi Arabia) ...CERAMIC 100PF 10% 50V
	*A-4333-214-A	(E,Saudi Arabia)....MOUNTED PCB, MAIN	C153	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
	*A-4333-215-A	(WG,IT).....MOUNTED PCB, MAIN	C154	1-162-219-31	CERAMIC 68PF 5% 50V
910	*1-533-213-31	HOLDER, FUSE	C155	1-123-382-00	ELECT 3.3MF 20% 50V
911	1-535-706-11	(AEP,UK,WG,IT)...PLUG, JUMPER	C156	1-130-480-00	MYLAR 0.0056MF 5% 50V
912	Δ1-506-409-11	(Saudi Arabia)...ADAPTOR, CONVERSION	C157	1-130-473-00	MYLAR 0.0015MF 5% 50V
	Δ1-526-565-00	(E).....AC PLUG ADAPTOR	C158	1-124-464-11	ELECT 0.22MF 20% 50V
913	Δ1-551-188-XX	(E)....CORD, POWER	C159	1-124-963-11	ELECT 33MF 20% 16V
	Δ1-555-750-00	(AEP,WG,Saudi Arabia,IT)...CORD, POWER	C160	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
	Δ1-556-035-00	(UK)....CORD, POWER	C161	1-124-257-00	ELECT 2.2MF 20% 50V
914	*1-631-087-11	(E,Saudi Arabia)....PC BOARD, POWER	C162	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
915	*1-631-089-11	(UK)...PC BOARD, CONNECTOR	C201	1-124-925-11	ELECT 2.2MF 20% 50V
BP901	*1-535-116-00	TERMINAL	C202	1-162-294-31	CERAMIC 0.001MF 10% 50V
BP902	*1-535-118-00	TERMINAL	C203	1-162-219-31	CERAMIC 68PF 5% 50V
BP903	*1-535-118-00	TERMINAL	C204	1-162-284-31	CERAMIC 150PF 10% 50V
BP904	*1-535-135-00	(E,Saudi Arabia) ...BASE POST 14MM (10MM PITCH) 2P	C205	1-124-463-00	ELECT 0.1MF 20% 50V
BP905	*1-535-135-00	(E,Saudi Arabia) ...BASE POST 14MM (10MM PITCH) 2P	C206	1-124-963-11	ELECT 33MF 20% 16V
BP906	*1-535-139-00	(UK)...BASE POST 19MM (10MM PITCH) 2P	C207	1-124-963-11	ELECT 33MF 20% 16V
BP907	*1-535-140-00	(E)....BASE POST 19MM (10MM PITCH) 3P	C301	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
BP907	*1-535-141-00	(AEP,UK,WG,Saudi Arabia,IT) ...BASE POST 19MM (10MM PITCH) 4P	C302	1-124-257-00	ELECT 2.2MF 20% 50V
C101	1-162-282-31	(AEP,UK,E,Saudi Arabia) ...CERAMIC 100PF 10% 50V	C303	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V
C101	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V	C304	1-161-494-00	CERAMIC 0.022MF 25V
C102	1-124-257-00	ELECT 2.2MF 20% 50V	C305	1-161-494-00	CERAMIC 0.022MF 25V
C103	1-162-282-31	(AEP,UK,E,Saudi Arabia) ...CERAMIC 100PF 10% 50V	C306	1-161-494-00	CERAMIC 0.022MF 25V
C103	1-162-288-31	(WG,IT)...CERAMIC 330PF 10% 50V	C307	1-161-494-00	CERAMIC 0.022MF 25V
C104	1-162-219-31	CERAMIC 68PF 5% 50V	C308	1-161-494-00	CERAMIC 0.022MF 25V
C105	1-123-382-00	ELECT 3.3MF 20% 50V	C309	1-161-494-00	CERAMIC 0.022MF 25V
C106	1-130-480-00	MYLAR 0.0056MF 5% 50V	C310	1-124-556-11	ELECT 2200MF 20% 16V
C107	1-130-473-00	MYLAR 0.0015MF 5% 50V	C311	1-161-494-00	CERAMIC 0.022MF 25V
C108	1-124-464-11	ELECT 0.22MF 20% 50V	C312	1-124-902-00	ELECT 0.47MF 20% 50V
C109	1-124-963-11	ELECT 33MF 20% 16V			



Ref.No.	Part No.	Description			
C313	1-161-494-00	CERAMIC	0.022MF		25V
C315	1-102-963-00	CERAMIC	33PF	5%	50V
C316	1-102-963-00	CERAMIC	33PF	5%	50V
C317	1-126-176-11	ELECT	220MF	20%	10V
C318	1-161-494-00	CERAMIC	0.022MF		25V
C319	1-161-494-00	CERAMIC	0.022MF		25V
C320	1-161-494-00	CERAMIC	0.022MF		25V
C321	1-161-494-00	CERAMIC	0.022MF		25V
C322	1-161-494-00	CERAMIC	0.022MF		25V
C323	1-124-446-11	ELECT	47MF	20%	10V
C324	1-161-494-00	CERAMIC	0.022MF		25V
C326	1-124-902-00	ELECT	0.47MF	20%	50V
C327	1-161-494-00	CERAMIC	0.022MF		25V
C329	1-124-963-11	ELECT	33MF	20%	16V
C330	1-124-963-11	ELECT	33MF	20%	16V
C331	1-161-494-00	CERAMIC	0.022MF		25V
C351	1-162-288-31	(WG,IT)...CERAMIC	330PF	10%	50V
C352	1-124-257-00	ELECT	2.2MF	20%	50V
C353	1-162-288-31	(WG,IT)...CERAMIC	330PF	10%	50V
C376	1-124-902-00	ELECT	0.47MF	20%	50V
C401	1-126-096-11	ELECT	10MF	20%	25V
C402	1-162-219-31	CERAMIC	68PF	5%	50V
C403	1-162-197-31	CERAMIC	6.8PF	10%	50V
C404	1-124-257-00	ELECT	2.2MF	20%	50V
C405	1-124-257-00	ELECT	2.2MF	20%	50V
C413	1-136-154-00	FILM	0.012MF	5%	50V
C414	1-136-154-00	FILM	0.012MF	5%	50V
C415	1-130-473-00	MYLAR	0.0015MF	5%	50V
C416	1-162-219-31	CERAMIC	68PF	5%	50V
C418	1-126-096-11	ELECT	10MF	20%	25V
C419	1-124-963-11	ELECT	33MF	20%	16V
C420	1-124-257-00	ELECT	2.2MF	20%	50V
C421	1-162-282-31	CERAMIC	100PF	10%	50V
C422	1-162-219-31	CERAMIC	68PF	5%	50V
C423	1-126-163-11	ELECT	4.7MF	20%	50V
C424	1-124-438-00	ELECT	1MF	20%	50V
C425	1-136-165-00	FILM	0.1MF	5%	50V
C426	1-124-257-00	ELECT	2.2MF	20%	50V
C451	1-126-096-11	ELECT	10MF	20%	25V
C452	1-162-219-31	CERAMIC	68PF	5%	50V
C453	1-162-197-31	CERAMIC	6.8PF	10%	50V
C454	1-124-257-00	ELECT	2.2MF	20%	50V
C455	1-124-257-00	ELECT	2.2MF	20%	50V
C463	1-136-154-00	FILM	0.012MF	5%	50V
C464	1-136-154-00	FILM	0.012MF	5%	50V
C465	1-130-473-00	MYLAR	0.0015MF	5%	50V
C466	1-162-219-31	CERAMIC	68PF	5%	50V
C468	1-126-096-11	ELECT	10MF	20%	25V
C469	1-124-963-11	ELECT	33MF	20%	16V
C470	1-124-257-00	ELECT	2.2MF	20%	50V
C471	1-162-282-31	CERAMIC	100PF	10%	50V
C472	1-124-963-11	ELECT	33MF	20%	16V
C473	1-126-163-11	ELECT	4.7MF	20%	50V
C474	1-124-438-00	ELECT	1MF	20%	50V
C475	1-136-165-00	FILM	0.1MF	5%	50V
C476	1-124-257-00	ELECT	2.2MF	20%	50V
C477	1-124-963-11	ELECT	33MF	20%	16V

Ref.No.	Part No.	Description			
C478	1-162-219-31	CERAMIC	68PF	5%	50V
C479	1-124-963-11	ELECT	33MF	20%	16V
C480	1-124-963-11	ELECT	33MF	20%	16V
C502	1-162-282-31	CERAMIC	100PF	10%	50V
C503	1-126-101-11	ELECT	100MF	20%	16V
C504	1-162-286-31	CERAMIC	220PF	10%	50V
C506	1-124-910-11	ELECT	47MF	20%	35V
C507	1-124-122-11	ELECT	100MF	20%	50V
C508	1-124-122-11	ELECT	100MF	20%	50V
C509	1-124-915-11	(E,Saudi Arabia)			
C509	1-126-233-11	(AEP,UK,WG,IT)	10MF	20%	63V
C510	1-136-163-00	FILM	0.068MF	5%	50V
C511	1-136-163-00	FILM	0.068MF	5%	50V
C514	1-136-163-00	(WG,IT)...FILM	0.068MF	5%	50V
C515	1-136-163-00	(WG,IT)...FILM	0.068MF	5%	50V
C516	1-161-379-00	(WG,IT)...CERAMIC	0.01MF	2%	16V
C552	1-162-282-31	CERAMIC	100PF	10%	50V
C553	1-126-101-11	ELECT	100MF	20%	16V
C554	1-162-286-31	CERAMIC	220PF	10%	50V
C556	1-124-910-11	ELECT	47MF	20%	35V
C560	1-136-163-00	FILM	0.068MF	5%	50V
C561	1-136-163-00	FILM	0.068MF	5%	50V
C564	1-136-163-00	(WG,IT)...FILM	0.068MF	5%	50V
C565	1-136-163-00	(WG,IT)...FILM	0.068MF	5%	50V
C566	1-161-379-00	(WG,IT)...CERAMIC	0.01MF	2%	16V
C707	1-126-176-11	ELECT	220MF	20%	6.3V
C708	1-126-176-11	ELECT	220MF	20%	6.3V
C709	1-124-443-00	ELECT	100MF	20%	6.3V
C710	1-124-464-11	ELECT	0.22MF	20%	50V
C711	1-124-257-00	ELECT	2.2MF	20%	50V
C901	1-102-355-00	CERAMIC	0.01MF		250V
C902	1-162-294-31	CERAMIC	0.001MF	10%	50V
C903	1-162-294-31	CERAMIC	0.001MF	10%	50V
C904	1-126-224-11	(AEP,UK,WG,IT)			
C904	1-126-258-51	(E,Saudi Arabia)	4700MF	20%	42V
C904	1-126-258-51	(E,Saudi Arabia)	4700MF	20%	56V
C905	1-126-224-11	(AEP,UK,WG,IT)			
C905	1-126-258-51	(E,Saudi Arabia)	4700MF	20%	42V
C905	1-126-258-51	(E,Saudi Arabia)	4700MF	20%	56V
C907	1-126-233-11	ELECT	22MF	20%	50V
C908	1-124-122-11	ELECT	100MF	20%	50V
C909	1-124-443-00	ELECT	100MF	20%	10V
C912	1-161-744-00	CERAMIC	0.01MF		400V
C914	1-124-557-11	ELECT	1000MF	20%	25V
C915	1-124-557-11	ELECT	1000MF	20%	25V
C918	1-126-101-11	(UK)...ELECT	100MF	20%	16V
C919	1-124-463-00	ELECT	0.1MF	20%	50V
C920	1-124-446-11	ELECT	47MF	20%	10V
C922	1-124-557-11	(E,Saudi Arabia)			
C922	1-124-557-11	(E,Saudi Arabia)	1000MF	20%	25V
C923	1-124-912-11	ELECT	330MF	20%	50V
C924	1-126-101-11	ELECT	100MF	20%	16V

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.



Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C925	1-126-101-11	ELECT 100MF 20% 16V	D905	8-719-200-77	DIODE 10E2N
C926	1-161-379-00	CERAMIC 0.01MF 30% 25V	D906	8-719-200-77	DIODE 10E2N
C927	1-161-379-00	CERAMIC 0.01MF 30% 25V	D907	8-719-200-77	DIODE 10E2N
C928	1-161-379-00	CERAMIC 0.01MF 30% 25V	D908	8-719-200-77	DIODE 10E2N
C929	1-161-494-00	CERAMIC 0.022MF 25V	D909	8-719-200-77	(E,Saudi Arabia)...DIODE 10E2N
C930	1-124-438-00	ELECT 1MF 20% 50V	D910	8-719-200-77	(E,Saudi Arabia)...DIODE 10E2N
CN101	*1-566-858-11	SOCKET, CONNECTOR 11P(SYSTEM CONTROL 1)	D911	8-719-000-26	(E,Saudi Arabia)...DIODE US1060M
CN304	*1-565-439-11	PIN, CONNECTOR (PCB) 10P	D912	8-719-000-26	(E,Saudi Arabia)...DIODE US1060M
CN305	*1-565-439-11	PIN, CONNECTOR (PCB) 10P	F901	△1-532-259-00	FUSE, TIME-LAG (1.6A)
CN308	*1-565-438-11	SOCKET, CONNECTOR (PCB) 10P	F902	△1-532-259-00	(AEP,WG,E,Saudi Arabia,IT) ...FUSE, TIME-LAG (1.6A)
CN309	*1-565-438-11	SOCKET, CONNECTOR (PCB) 10P	F905	△1-532-203-00	FUSE, TIME-LAG (2A)
CN310	*1-565-438-11	SOCKET, CONNECTOR (PCB) 10P	F906	△1-532-203-00	FUSE, TIME-LAG (2A)
CN311	*1-565-439-11	PIN, CONNECTOR (PCB) 10P	IC101	8-759-600-02	IC M5218L
CN312	*1-565-439-11	PIN, CONNECTOR (PCB) 10P	IC201	8-759-106-41	IC UPC4570C
CN314	*1-565-438-11	SOCKET, CONNECTOR (PCB) 10P	IC301	8-759-800-37	IC LC4066BH
CN315	*1-565-438-11	SOCKET, CONNECTOR (PCB) 10P	IC302	8-759-802-52	IC LC7818
CN316	*1-565-438-11	SOCKET, CONNECTOR (PCB) 10P	IC303	8-759-632-31	IC M50721-127P
CN402	*1-565-439-11	PIN, CONNECTOR (PCB) 10P	IC304	8-759-820-62	IC LB1639
CN413	*1-565-439-11	PIN, CONNECTOR (PCB) 10P	IC305	8-749-920-83	IC GP1U52XB
CN501	*1-564-508-11	PLUG, CONNECTOR 5P	IC401	8-759-106-41	IC UPC4570C
CN901	*1-566-859-11	SOCKET, CONNECTOR 15P(SYSTEM CONTROL 2)	IC402	8-759-106-41	IC UPC4570C
CN903	*1-564-506-11	PLUG, CONNECTOR 3P	IC403	8-759-106-41	IC UPC4570C
CN906	*1-566-210-11	(UK)...PIN, CONNECTOR 3P (OUT PUT)	IC501	8-749-900-78	(E,Saudi Arabia)...IC STK4192II
CNJ901△	1-540-041-11	(E).....OUTLET, AC (NONPOLAR) (2P)	IC501	8-749-941-52	(AEP,UK,WG,IT).....IC STK4152II
CNJ901△	1-526-751-00	(UK).....OUTLET, AC	IC702	8-759-111-68	IC UPC1237HA
CNJ901△	1-526-794-11	(AEP,WG,Saudi Arabia,IT)...OUTLET, AC	IC901	8-759-604-32	IC M5F7810
CNJ902△	1-526-794-11	(AEP,WG,Saudi Arabia,IT)...OUTLET, AC	IC902	8-759-604-50	IC M5F7910
D301	8-719-000-26	DIODE US1060M	IC903	8-759-604-33	(UK)...IC M5F7812
D302	8-719-000-26	DIODE US1060M	IC904	8-759-820-84	IC L78MR05
D303	8-719-000-26	DIODE US1060M	J101	1-565-320-11	JACK, PIN 6P (PHONO IN,CD IN,VIDEO/DAT OUT)
D304	8-719-933-36	DIODE HZS6B1L	J102	1-565-320-11	JACK, PIN 6P (VIDEO/DAT IN,EQUALIZER OUT/IN)
D305	8-719-000-26	DIODE US1060M	J201	1-563-347-11	JACK (MIC)
D306	8-719-310-42	DIODE SEL4225RM-D	J501	1-565-352-21	JACK, PIN 2P (SURROUND SPEAKER)
D307	8-719-301-44	DIODE SEL2410E-D	J502	1-568-018-11	JACK, LARGE TYPE 1P (HEADPHONES)
D308	8-719-301-44	DIODE SEL2410E-D	L501	*1-420-872-00	COIL, AIR CORE
D309	8-719-301-44	DIODE SEL2410E-D	L551	*1-420-872-00	COIL, AIR CORE
D310	8-719-301-44	DIODE SEL2410E-D	Q301	8-729-107-98	TRANSISTOR 2SC3622AL
D311	8-719-301-44	DIODE SEL2410E-D	Q303	8-729-900-63	TRANSISTOR DTA124ES
D312	8-719-301-44	DIODE SEL2410E-D	Q304	8-729-820-10	TRANSISTOR 2SA1317
D313	8-719-301-44	DIODE SEL2410E-D	Q305	8-729-806-34	TRANSISTOR 2SC3400
D314	8-719-301-44	DIODE SEL2410E-D	Q306	8-729-820-23	TRANSISTOR 2SC3330S
D315	8-719-301-44	DIODE SEL2410E-D	Q307	8-729-806-34	TRANSISTOR 2SC3400
D316	8-719-301-44	DIODE SEL2410E-D	Q308	8-729-900-63	TRANSISTOR DTA124ES
D317	8-719-311-87	(E,Saudi Arabia)...DIODE SEL1222R-C	Q309	8-729-900-63	TRANSISTOR DTA124ES
D401	8-719-311-86	DIODE SEL4825WMCD	Q310	8-729-820-23	TRANSISTOR 2SC3330S
D402	8-719-311-86	DIODE SEL4825WMCD	Q311	8-729-820-10	TRANSISTOR 2SA1317
D703	8-719-000-26	DIODE US1060M	Q312	8-729-820-23	TRANSISTOR 2SC3330S
D704	8-719-000-26	DIODE US1060M	Q313	8-729-900-63	TRANSISTOR DTA124ES
D705	8-719-000-26	DIODE US1060M	Q314	8-729-900-63	TRANSISTOR DTA124ES
D706	8-719-000-26	DIODE US1060M	Q315	8-729-900-63	TRANSISTOR DTA124ES
D707	8-719-000-26	DIODE US1060M	Q316	8-729-900-63	TRANSISTOR DTA124ES
D708	8-719-200-77	DIODE 10E2N	Q317	8-729-900-63	TRANSISTOR DTA124ES
D753	8-719-000-26	DIODE US1060M	Q318	8-729-806-34	TRANSISTOR 2SC3400
D901	8-719-302-38	DIODE RBV-602-01	Q319	8-729-806-34	TRANSISTOR 2SC3400
D902	8-719-200-77	DIODE 10E2N			
D903	8-719-002-45	DIODE UZL-27M			
D904	8-719-160-23	DIODE RD5.1FB2			

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.



Ref.No.	Part No.	Description
Q320	8-729-806-34	TRANSISTOR 2SC3400
Q321	8-729-806-34	TRANSISTOR 2SC3400
Q322	8-729-806-34	TRANSISTOR 2SC3400
Q351	8-729-107-98	TRANSISTOR 2SC3622AL
Q401	8-729-224-63	TRANSISTOR 2SK246BL
Q402	8-729-119-78	TRANSISTOR 2SC2785HFE
Q451	8-729-224-63	TRANSISTOR 2SK246BL
Q452	8-729-119-78	TRANSISTOR 2SC2785HFE
Q711	8-729-108-06	TRANSISTOR 2SC1841
Q712	8-729-900-63	TRANSISTOR DTA124ES
Q761	8-729-108-06	TRANSISTOR 2SC1841
Q901	8-729-920-91	TRANSISTOR 2SB1187F
Q902	8-729-820-23	(E,Saudi Arabia)...TRANSISTOR 2SC3330S
Q903	8-729-806-34	(E,Saudi Arabia)...TRANSISTOR 2SC3400
Q904	8-729-806-34	(E,Saudi Arabia)...TRANSISTOR 2SC3400
R101	1-249-417-11	(WG,IT)...CARBON 1K 5% 1/4W
R103	1-249-417-11	CARBON 1K 5% 1/4W
R105	1-247-832-11	CARBON 1.1K 5% 1/4W
R106	1-247-897-11	CARBON 560K 5% 1/4W
R107	1-249-437-11	CARBON 47K 5% 1/4W
R108	1-249-405-11	CARBON 100 5% 1/4W
R109	1-249-441-11	CARBON 100K 5% 1/4W
R110	1-249-417-11	CARBON 1K 5% 1/4W
R112	1-249-441-11	CARBON 100K 5% 1/4W
R113	1-249-417-11	CARBON 1K 5% 1/4W
R114	1-249-441-11	CARBON 100K 5% 1/4W
R115	1-249-417-11	CARBON 1K 5% 1/4W
R117	1-249-441-11	CARBON 100K 5% 1/4W
R119	1-249-441-11	CARBON 100K 5% 1/4W
R121	1-249-441-11	CARBON 100K 5% 1/4W
R122	1-249-417-11	CARBON 1K 5% 1/4W
R123	1-249-441-11	CARBON 100K 5% 1/4W
R124	1-249-437-11	CARBON 47K 5% 1/4W
R151	1-249-417-11	(WG,IT)...CARBON 1K 5% 1/4W
R153	1-249-417-11	CARBON 1K 5% 1/4W
R155	1-247-832-11	CARBON 1.1K 5% 1/4W
R156	1-247-897-11	CARBON 560K 5% 1/4W
R157	1-249-437-11	CARBON 47K 5% 1/4W
R158	1-249-405-11	CARBON 100 5% 1/4W
R159	1-249-441-11	CARBON 100K 5% 1/4W
R160	1-249-417-11	CARBON 1K 5% 1/4W
R162	1-249-441-11	CARBON 100K 5% 1/4W
R163	1-249-417-11	CARBON 1K 5% 1/4W
R164	1-249-441-11	CARBON 100K 5% 1/4W
R165	1-249-417-11	CARBON 1K 5% 1/4W
R167	1-249-441-11	CARBON 100K 5% 1/4W
R169	1-249-441-11	CARBON 100K 5% 1/4W
R171	1-249-441-11	CARBON 100K 5% 1/4W
R172	1-249-417-11	CARBON 1K 5% 1/4W
R173	1-249-441-11	CARBON 100K 5% 1/4W
R174	1-249-437-11	CARBON 47K 5% 1/4W
R201	1-249-417-11	CARBON 1K 5% 1/4W
R202	1-249-429-11	CARBON 10K 5% 1/4W
R203	1-249-412-11	CARBON 390 5% 1/4W
R204	1-249-441-11	CARBON 100K 5% 1/4W
R205	1-249-416-11	CARBON 820 5% 1/4W
R301	1-249-417-11	CARBON 1K 5% 1/4W

Ref.No.	Part No.	Description
R302	1-249-441-11	CARBON 100K 5% 1/4W
R303	1-249-417-11	CARBON 1K 5% 1/4W
R305	1-249-441-11	CARBON 100K 5% 1/4W
R306	1-249-433-11	CARBON 22K 5% 1/4W
R307	1-249-433-11	CARBON 22K 5% 1/4W
R308	1-249-433-11	CARBON 22K 5% 1/4W
R309	1-249-433-11	CARBON 22K 5% 1/4W
R310	1-249-441-11	CARBON 100K 5% 1/4W
R311	1-247-901-11	CARBON 820K 5% 1/4W
R312	1-249-441-11	CARBON 100K 5% 1/4W
R313	1-249-441-11	CARBON 100K 5% 1/4W
R314	1-249-433-11	CARBON 22K 5% 1/4W
R315	1-249-417-11	CARBON 1K 5% 1/4W
R316	1-249-441-11	CARBON 100K 5% 1/4W
R317	1-249-433-11	CARBON 22K 5% 1/4W
R318	1-247-903-00	CARBON 1M 5% 1/4W
R319	1-247-903-00	CARBON 1M 5% 1/4W
R320	1-249-405-11	CARBON 100 5% 1/4W
R321	1-249-405-11	CARBON 100 5% 1/4W
R322	1-249-433-11	CARBON 22K 5% 1/4W
R323	1-249-425-11	CARBON 4.7K 5% 1/4W
R324	1-249-429-11	CARBON 10K 5% 1/4W
R325	1-249-433-11	CARBON 22K 5% 1/4W
R326	1-249-433-11	CARBON 22K 5% 1/4W
R327	1-249-433-11	CARBON 22K 5% 1/4W
R328	1-249-433-11	CARBON 22K 5% 1/4W
R329	1-249-413-11	CARBON 470 5% 1/4W
R330	1-249-412-11	CARBON 390 5% 1/4W
R331	1-249-412-11	CARBON 390 5% 1/4W
R332	1-249-412-11	CARBON 390 5% 1/4W
R333	1-249-412-11	CARBON 390 5% 1/4W
R334	1-249-412-11	CARBON 390 5% 1/4W
R335	1-249-412-11	CARBON 390 5% 1/4W
R336	1-249-433-11	CARBON 22K 5% 1/4W
R337	1-249-433-11	CARBON 22K 5% 1/4W
R338	1-249-433-11	CARBON 22K 5% 1/4W
R339	1-249-433-11	CARBON 22K 5% 1/4W
R340	1-249-433-11	CARBON 22K 5% 1/4W
R341	1-249-425-11	CARBON 4.7K 5% 1/4W
R342	1-249-425-11	CARBON 4.7K 5% 1/4W
R343	1-249-431-11	CARBON 15K 5% 1/4W
R344	1-249-410-11	(E,Saudi Arabia) ...CARBON 270 5% 1/4W
R345	1-249-441-11	CARBON 100K 5% 1/4W
R346	1-249-441-11	CARBON 100K 5% 1/4W
R347	1-249-441-11	CARBON 100K 5% 1/4W
R348	1-249-441-11	CARBON 100K 5% 1/4W
R349	1-249-433-11	CARBON 22K 5% 1/4W
R350	1-249-433-11	CARBON 22K 5% 1/4W
R351	1-249-417-11	CARBON 1K 5% 1/4W
R352	1-249-441-11	CARBON 100K 5% 1/4W
R353	1-249-417-11	CARBON 1K 5% 1/4W
R355	1-249-411-11	CARBON 100K 5% 1/4W
R356	1-249-433-11	CARBON 22K 5% 1/4W
R357	1-249-435-11	CARBON 33K 5% 1/4W



Ref.No.	Part No.	Description			
R401	1-249-437-11	CARBON	47K	5%	1/4W
R402	1-249-437-11	CARBON	47K	5%	1/4W
R403	1-249-434-11	CARBON	27K	5%	1/4W
R404	1-249-434-11	CARBON	27K	5%	1/4W
R405	1-249-430-11	CARBON	12K	5%	1/4W
R406	1-247-903-00	CARBON	1M	5%	1/4W
R416	1-249-406-11	CARBON	120	5%	1/4W
R419	1-249-413-11	CARBON	470	5%	1/4W
R420	1-249-406-11	CARBON	120	5%	1/4W
R421	1-249-441-11	CARBON	100K	5%	1/4W
R422	1-249-435-11	CARBON	33K	5%	1/4W
R423	1-249-435-11	CARBON	33K	5%	1/4W
R425	1-249-428-11	CARBON	8.2K	5%	1/4W
R426	1-249-425-11	CARBON	4.7K	5%	1/4W
R427	1-249-417-11	CARBON	1K	5%	1/4W
R428	1-249-441-11	CARBON	100K	5%	1/4W
R429	1-249-425-11	CARBON	4.7K	5%	1/4W
R430	1-249-441-11	CARBON	100K	5%	1/4W
R431	1-249-417-11	CARBON	1K	5%	1/4W
R432	1-249-439-11	CARBON	68K	5%	1/4W
R433	1-249-426-11	CARBON	5.6K	5%	1/4W
R434	1-249-412-11	CARBON	390	5%	1/4W
R435	1-247-887-00	CARBON	220K	5%	1/4W
R451	1-249-437-11	CARBON	47K	5%	1/4W
R452	1-249-437-11	CARBON	47K	5%	1/4W
R453	1-249-434-11	CARBON	27K	5%	1/4W
R454	1-249-434-11	CARBON	27K	5%	1/4W
R455	1-249-430-11	CARBON	12K	5%	1/4W
R456	1-247-903-00	CARBON	1M	5%	1/4W
R471	1-249-441-11	CARBON	100K	5%	1/4W
R472	1-249-435-11	CARBON	33K	5%	1/4W
R473	1-249-435-11	CARBON	33K	5%	1/4W
R475	1-249-428-11	CARBON	8.2K	5%	1/4W
R476	1-249-425-11	CARBON	4.7K	5%	1/4W
R477	1-249-417-11	CARBON	1K	5%	1/4W
R478	1-249-441-11	CARBON	100K	5%	1/4W
R479	1-249-425-11	CARBON	4.7K	5%	1/4W
R480	1-249-441-11	CARBON	100K	5%	1/4W
R481	1-249-417-11	CARBON	1K	5%	1/4W
R482	1-249-439-11	CARBON	68K	5%	1/4W
R483	1-249-426-11	CARBON	5.6K	5%	1/4W
R484	1-249-412-11	CARBON	390	5%	1/4W
R501	1-247-713-11	CARBON	1K	5%	1/4W
R502	1-249-438-11	CARBON	56K	5%	1/4W
R503	1-249-415-11	CARBON	680	5%	1/4W
R504	1-249-438-11	CARBON	56K	5%	1/4W
R505	1-247-758-11	(E,Saudi Arabia) ...CARBON 3.3K	5%	1/2W	
R505	1-247-756-11	(AEP,UK,WG,IT) ...CARBON 2.2K	5%	1/2W	
R506	1-247-756-11	(AEP,UK,WG,IT) ...CARBON 2.2K	5%	1/2W	
R506	1-247-758-11	(E,Saudi Arabia) ...CARBON 3.3K	5%	1/2W	
R507	△1-212-881-11	FUSIBLE	100	5%	1/4W F
R508	△1-212-881-11	FUSIBLE	100	5%	1/4W F
R510	1-247-752-11	CARBON	1K	5%	1/2W
R511	1-247-752-11	CARBON	1K	5%	1/2W
R512	1-217-156-00	METAL PLATE	0.22	10%	5W
R514	1-247-727-11	CARBON	10	5%	1/2W

Ref.No.	Part No.	Description			
R515	1-247-727-11	CARBON	10	5%	1/2W
R516	1-247-727-11	(WG,IT)...CARBON	10	5%	1/2W
R517	1-249-433-11	CARBON	22K	5%	1/4W
R518	1-247-746-11	CARBON	390	5%	1/2W
R551	1-247-713-11	CARBON	1K	5%	1/4W
R552	1-249-438-11	CARBON	56K	5%	1/4W
R553	1-249-415-11	CARBON	680	5%	1/4W
R554	1-249-438-11	CARBON	56K	5%	1/4W
R555	1-247-756-11	(AEP,UK,WG,IT) ...CARBON 2.2K	5%	1/2W	
R555	1-247-758-11	(E,Saudi Arabia) ...CARBON 3.3K	5%	1/2W	
R556	1-247-756-11	(AEP,UK,WG,IT) ...CARBON 2.2K	5%	1/2W	
R556	1-247-758-11	(E,Saudi Arabia) ...CARBON 3.3K	5%	1/2W	
R566	1-247-727-11	(WG,IT)...CARBON	10	5%	1/2W
R562	1-217-156-00	METAL PLATE	0.22	10%	5W
R564	1-247-727-11	CARBON	10	5%	1/2W
R565	1-247-727-11	CARBON	10	5%	1/2W
R567	1-249-433-11	CARBON	22K	5%	1/4W
R568	1-247-746-11	CARBON	390	5%	1/2W
R722	1-249-417-11	CARBON	1K	5%	1/4W
R723	1-249-431-11	CARBON	15K	5%	1/4W
R724	1-249-441-11	CARBON	100K	5%	1/4W
R725	1-249-438-11	CARBON	56K	5%	1/4W
R726	1-249-429-11	CARBON	10K	5%	1/4W
R727	1-249-441-11	CARBON	100K	5%	1/4W
R729	1-249-434-11	CARBON	27K	5%	1/4W
R730	1-247-764-11	CARBON	10K	5%	1/2W
R731	△1-215-891-11	(E,Saudi Arabia) ...METAL OXIDE	680	5%	2W F
R731	△1-216-455-11	(AEP,UK,WG,IT) ...METAL OXIDE	560	5%	2W F
R732	1-249-425-11	CARBON	4.7K	5%	1/4W
R733	1-247-903-00	CARBON	1M	5%	1/4W
R734	1-249-431-11	CARBON	15K	5%	1/4W
R772	1-249-417-11	CARBON	1K	5%	1/4W
R773	1-249-431-11	CARBON	15K	5%	1/4W
R774	1-249-441-11	CARBON	100K	5%	1/4W
R775	1-249-437-11	CARBON	47K	5%	1/4W
R901	△1-217-469-00	FUSIBLE	1	5%	1W F
R902	1-247-761-11	CARBON	5.6K	5%	1/2W
R903	1-249-422-11	CARBON	2.7K	5%	1/4W
R904	△1-217-469-00	FUSIBLE	1	5%	1W F
R905	△1-217-469-00	FUSIBLE	1	5%	1W F
R907	1-249-423-11	(E,Saudi Arabia) ...CARBON 3.3K	5%	1/4W	
R908	1-249-433-11	CARBON	22K	5%	1/4W
R910	1-217-156-00	(E,Saudi Arabia) ...METAL PLATE	0.22	10%	5W
R911	1-217-156-00	(E,Saudi Arabia) ...METAL PLATE	0.22	10%	5W
R912	1-217-156-00	(E,Saudi Arabia) ...METAL PLATE	0.22	10%	5W

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.



Ref.No.	Part No.	Description
R913	1-217-156-00	(E,Saudi Arabia) ...METAL PLATE 0.22 10% 5W
R914	△1-217-469-00	FUSIBLE 1 5% 1W F
RV201	1-237-883-11	RES, VAR, CARBON 50K (MIC LEVEL)
RV401	1-237-881-11	RES, VAR, CARBON 100K/100K (BASS)
RV402	1-237-881-11	RES, VAR, CARBON 100K/100K (TREBLE)
RV403	1-237-882-11	RES, VAR, CARBON 100K (BALANCE)
RV404	1-237-884-11	RES, VAR, CARBON 100K/100K (including motor)(VOLUME)
RY701	1-515-501-00	RELAY
RY901	1-515-720-11	RELAY
S301	1-554-303-21	SWITCH, KEY BOARD (PHONO)
S302	1-554-303-21	SWITCH, KEY BOARD (TUNER)
S303	1-554-303-21	SWITCH, KEY BOARD (CD)
S304	1-554-303-21	SWITCH, KEY BOARD (TAPE)
S305	1-554-303-21	SWITCH, KEY BOARD (VIDEO/DAT)
S306	1-554-303-21	SWITCH, KEY BOARD (EQ REC)
S307	1-552-412-00	(E,Saudi Arabia) ...SWITCH, KEY BOARD (SYSTEM POWER)
S401	1-571-292-11	SWITCH, PUSH (1 KEY)(SURROUND)
S402	1-571-292-11	(AEP,WG,UK,IT)....SWITCH, PUSH (1 KEY)(DBFB)
S402	1-571-292-11	(E,Saudi Arabia)....SWITCH, PUSH (1 KEY)(SAT)
S901	△1-554-920-21	(AEP,UK,WG,IT).... SWITCH, PUSH (1 KEY)(AC POWER)(POWER)
T901	△1-449-724-11	(E,Saudi Arabia)....TRANSFORMER, POWER
T901	△1-449-725-11	(AEP,WG,UK,IT)....TRANSFORMER, POWER
T902	△1-449-723-11	(E,Saudi Arabia)....TRANSFORMER, POWER
TB501	1-536-705-00	TERMINAL BOARD (SP)(SPEAKER)
VS901	△1-571-437-11	(E,Saudi Arabia)....SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR)
XT301	1-567-839-11	VIBRATOR, CERAMIC 3MHz

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.



# TC-V701

## SERVICE MANUAL

*AEP Model  
UK Model  
E Model*




TC-V701 is the cassette deck section in LBT-V701.

Model Name Using Similar Mechanism	TC-WR810
Tape Transport Mechanism Type	Deck A: TCM-170RA1
	Deck B: TCM-170RB18

### SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF (DIN) With TYPE II cassette (Sony UX-S) 30 to 14,000 Hz $\pm$ 3 dB With TYPE I cassette (Sony HF-S) 30 to 13,000 Hz $\pm$ 3 dB
Wow and flutter	$\pm$ 0.2 % (DIN)
Dimensions	Approx. 355 $\times$ 133 $\times$ 308 mm (w/h/d) (14 $\times$ 5 1/4 $\times$ 12 1/8 inches)
Weight	Incl. projecting parts and controls Approx. 3.7 kg (8 lb 3 oz)

Dolby noise reduction manufactured under license from  
Dolby Laboratories Licensing Corporation.  
"DOLBY" and the double-D symbol  are trademarks of  
Dolby Laboratories Licensing Corporation.



**STEREO CASSETTE DECK**  
**SONY®**



SECTION 1  
SERVICING NOTES

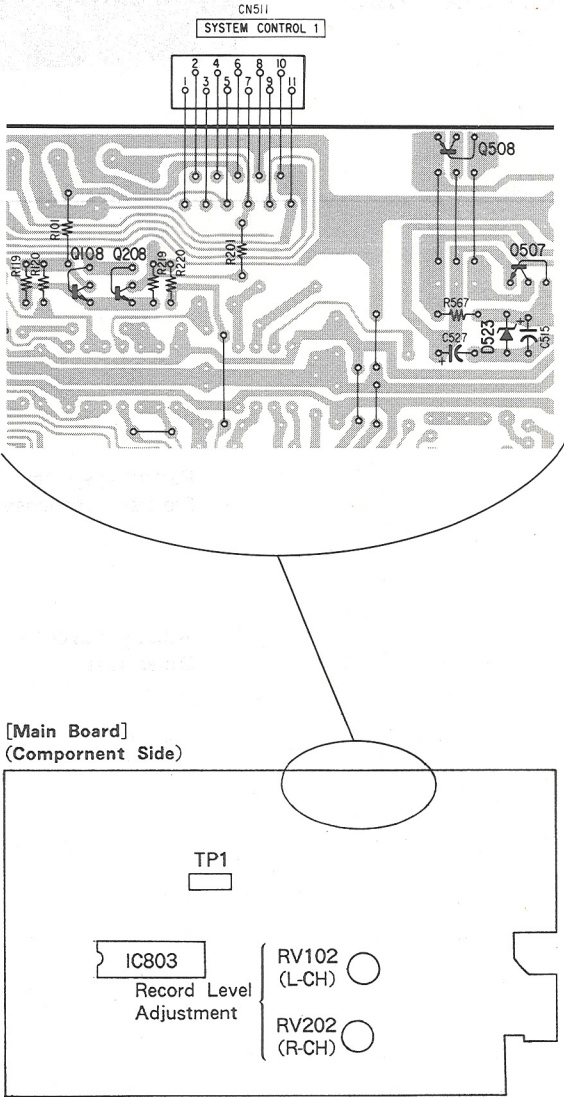
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- Power Supply  
On servicing, connect CN510 (SYSTEM CONTROL 2) to the system amplifier TA-V701.
- LINE IN/OUT (CN511 : SYSTEM CONTROL 1)  
Location

LINE OUT { L-CH : Pin ⑤  
              R-CH : Pin ⑦

LINE IN { L-CH : Pin ⑨  
           R-CH : Pin ⑪



SAFETY-RELATED COMPONENT WARNING!!

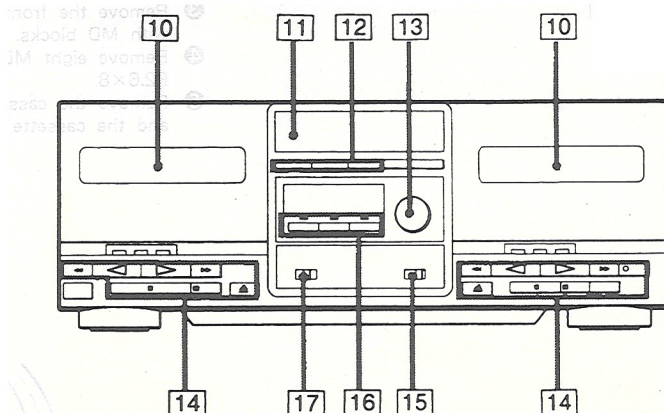
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.




## SECTION 2

### GENERAL

#### • Parts Identification



- 10** Cassette holders
- 11** Display window
- 12** COUNTER setting buttons
- 13** REC (recording) LEVEL control
- 14** Tape operation buttons
  - ◀◀ Leftward fast winding
  - ▶▶ Rightward fast winding
  - ◁ Reverse play
  - ▷ Forward play
  - Stop
  - ▲ Eject
  - || PAUSE
  - REC MUTE (record muting, for deck B only)
  - REC (record, for deck B only)
- 15** DOLBY NR\* (Noise Reduction) switch
- 16** SYNCHRO (synchronized) DUBBING speed selector
- 17** DIRECTION MODE selector

\* Dolby Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.  
 "DOLBY" and the double-D symbol  are trademarks of Dolby Licensing Corporation.



## SECTION 3 DISASSEMBLY

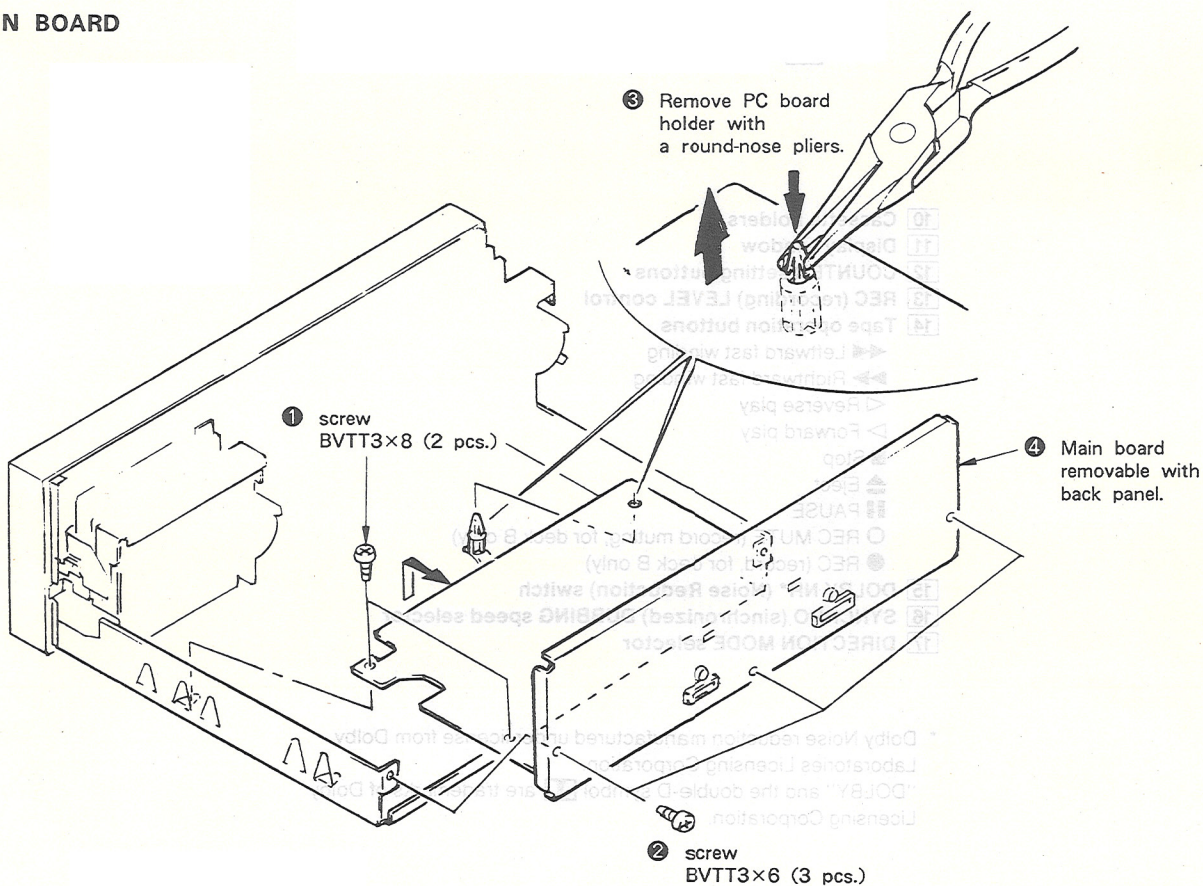
**Note :** Follow the disassembly procedure in the numerical order given.

Remove the case by removing four case stopping screw (M3×8).



- ① Push EJECT button and slide the cassette lid off.
- ② Remove the connectors on MD blocks. (Deck A : CNP11, 12, 82, Deck B : CNP11, 12, 82, 83)
- ③ Remove the front panel assembly with MD blocks.
- ④ Remove eight MD stopping screw P2.6×8.
- ⑤ Remove the cassette holder assemblies and the cassette retainers.

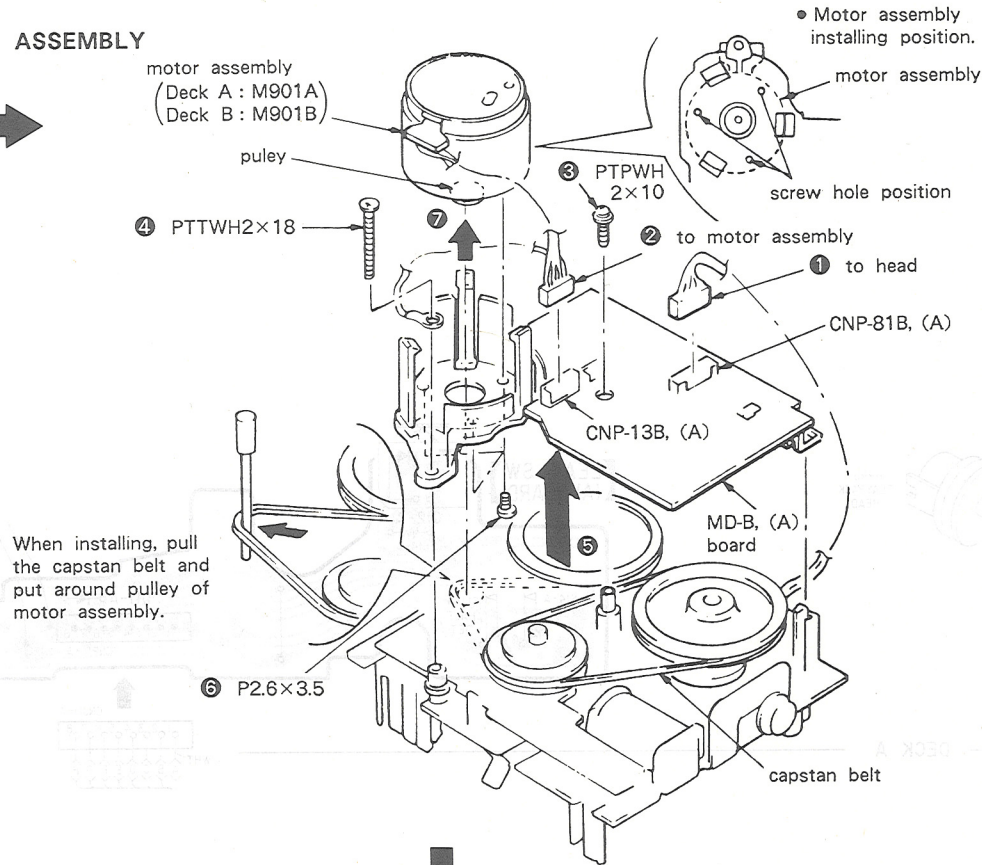
MAIN BOARD



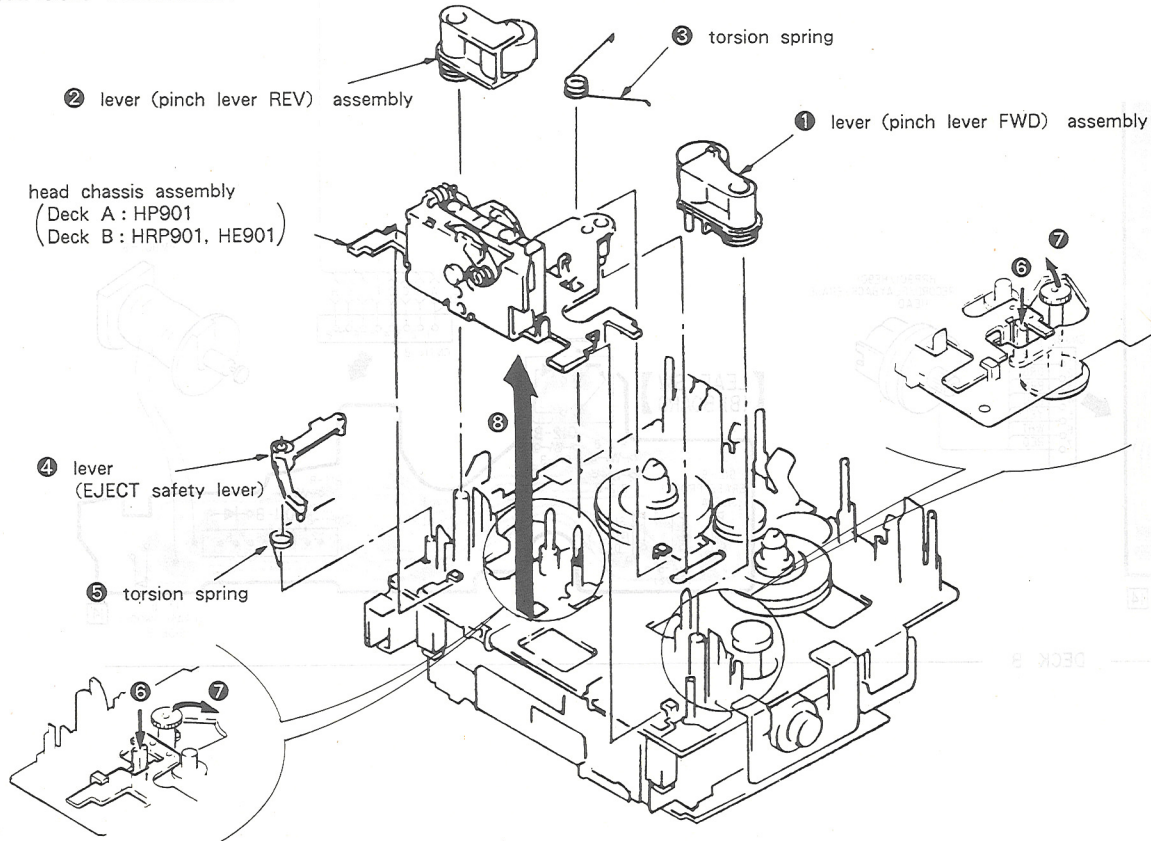


SECTION 4  
ADJUSTMENTS

DECK A, B MOTOR ASSEMBLY



HEAD CHASSIS ASSEMBLY



4-1. MECHANICAL ADJUSTMENT

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab:
  - record/playback head
  - erase head
  - capstan
  - pinch roller
  - rubber belts
  - idler
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.

Torque Measurement

Torque	Torque Meter	Meter Reading
FWD	CQ-102C	30 to 60 g·cm (0.42 to 0.83 oz·inch)
FWD Back Tension	CQ-102C	1 to 5 g·cm (0.014 to 0.06 oz·inch)
REV	CQ-102RC	30 to 60 g·cm (0.42 to 0.83 oz·inch)
REV Back Tension	CQ-102RC	1 to 5 g·cm (0.014 to 0.06 oz·inch)
FF, REW	CQ-201B	100 to 170 g·cm (1.4 to 2.36 oz·inch)

4-2. ELECTRICAL ADJUSTMENTS

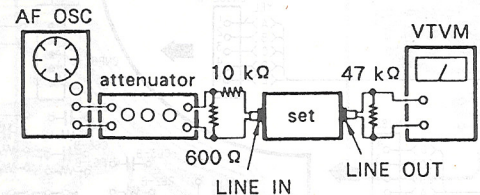
**Note:** The adjustment should be performed in the order given in the service manual.  
The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF

- Standard Record:  
Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Record Mode



Standard Input Level

	LINE IN
source impedance	10 kΩ
input level	0.25 V (−10 dB)

Standard Output Level

	LINE OUT
load impedance	47 kΩ
output level	0.44 V (−5 dB)

Test tape

Type	Signal	User for
P-4-A100	10 kHz, −10 dB	Azimuth Adjustment
P-4-L300	315 Hz, 0 dB	PB LEVEL Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

Test Mode

When making pin ③ of IC803 low (connect TP1 to ground with jumper wire), following function operates.

- Source monitor  
Release the line mute while recording.
- High speed playback  
On recording, while pressing HIGH SPEED (DUBBING) button, high speed playback operates.
- Record memory stop  
Using DIRECTION MODE switch ⇄, returns to the recording start point and stops or plays.
- LED indication of slide switch  
When making Deck B pause, LED indicates the positions of DIRECTION MODE switch.

Switch	Position	LED
DIRECTION MODE	⇄	Deck A ◀
	↻	Deck A PLAY
	RELAY	Deck A ▶

- AGC gain check  
When setting DIRECTION MODE switch to ⇄ and recording, AGC gain becomes maximum.

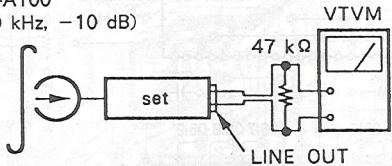
Record/Playback Head Azimuth Adjustment

DECK A DECK B

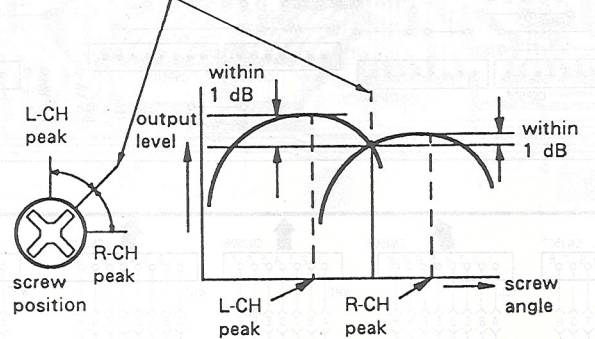
Procedure:

- Mode: FWD playback

test tape  
P-4-A100  
(10 kHz, −10 dB)



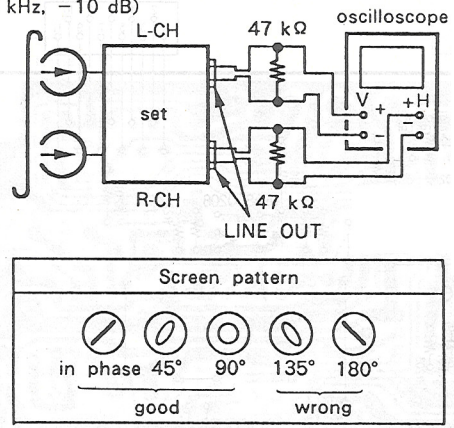
- Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.





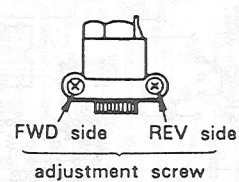
3. Phase Check  
Mode : playback

test tape  
P-4-A100  
(10 kHz, -10 dB)



- Set in the REV mode and repeat the step 1 - 3.
- After the adjustment, lock the screws with locking compound.

Adjustment Location : record/playback head

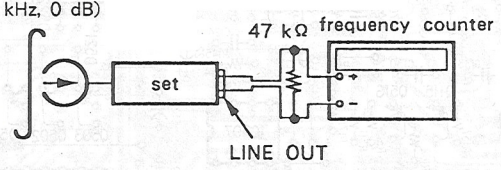


Tape Speed Adjustment **DECK A** **DECK B**

Perform high speed adjustment before normal speed adjustment.

Procedure :  
Mode : FWD playback

test tape  
WS-48B  
(3 kHz, 0 dB)



[High Speed Adjustment]

- Short-circuit TP1.
- Put the set to FWD playback state.
- Press and keep on pressing HIGH SPEED DUBBING switch (S802 on FL board).
- On this time, adjust with the semi-fixed variable resistors (H) on the rear side of M901A (Deck A) and M901B (Deck B) so that the reading on the frequency counter becomes the adjustment limits.
- After adjustment, release the short on TP1.

[Normal Speed Adjustment]

- Put the set to FWD playback state.
- On this time, adjust with the semi-fixed variable resistors (L) on the rear side of M901A (Deck A) and M901B (Deck B) so that the reading on the frequency counter becomes the adjustment limits.

Adjustment Limits :

Speed	Frequency Counter
high	5,960 ±60 Hz
normal	2,980 ±30 Hz

Frequency difference between the beginning and the end of the tape should be within 3%.  
Frequency difference between Deck A and Deck B the beginning of the tape should be within 1.5%.

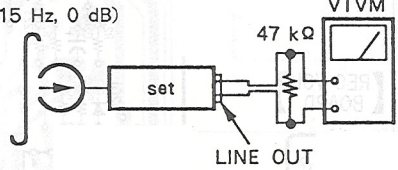
Adjustment Location :

- Deck A : motor (M901A) rear side
- Deck B : motor (M901B) rear side

Playback Level Adjustment **DECK A** **DECK B**

Procedure :  
Mode : playback

P-4L300  
(315 Hz, 0 dB)



Adjust Deck A : RV41A (L-CH), RV61A (R-CH) and Deck B : RV41B (L-CH), RV61B (R-CH) so that the VTVM reading becomes the adjustment limits below.

Adjustment Limits :

LINE OUT level : -5 ±1.5 dB (0.37 - 0.51 V)

Level difference between channels : less than 1 dB.

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD (A), (B) board

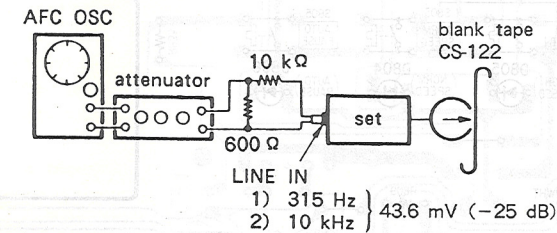


Record Bias Adjustment **DECK B**

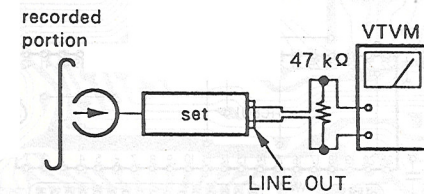
- Setting :
- REC LEVEL control : standard record (See page 6.)
  - Short-circuit TP1.

Procedure :

1. Mode : record



2. Mode : playback



- Confirm that the 10 kHz playback output is  $0 \pm 0.5$  dB relative to the 315 Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.
3. After adjustment, release the short on TP1.

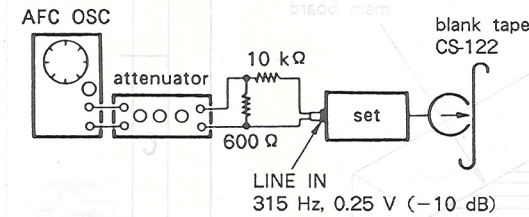
Adjustment Location : MD (B) board

Record Level Adjustment **DECK B**

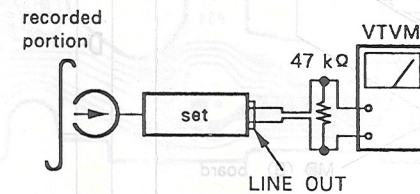
- Setting :
- REC LEVEL control : standard record (See page 6.)
  - Short-circuit TP1.

Procedure :

1. Mode : record



2. Mode : playback

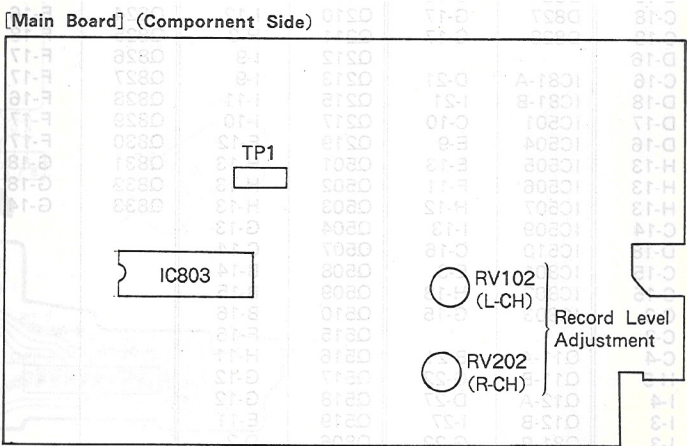
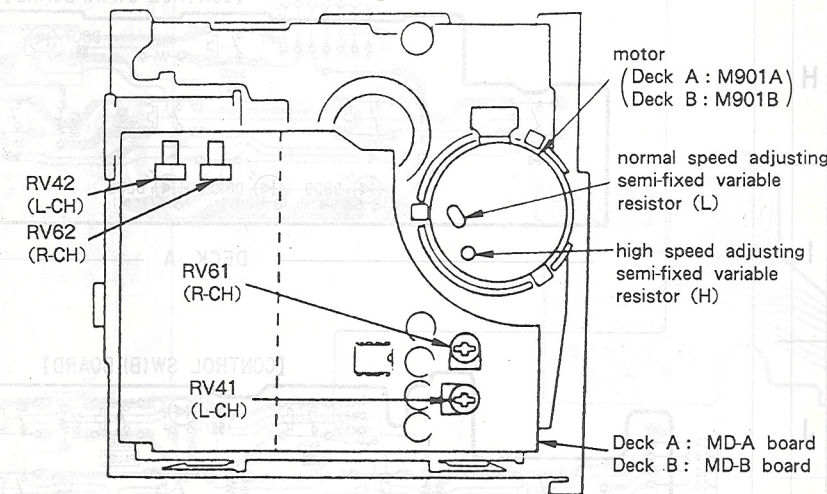


3. Play back the signal recorded in step 1.  
Confirm that the signal level is within the specification below.  
If necessary, adjust RV102 (L-CH), RV202 (R-CH) and repeat the step 1 - 3.
4. After adjustment, release the short on TP1.

Specification : LINE OUT level :  $-5 \pm 0.5$  dB  
(0.41 - 0.46 V)

Adjustment Location : main board

-Adjustment Parts Location Diagram-

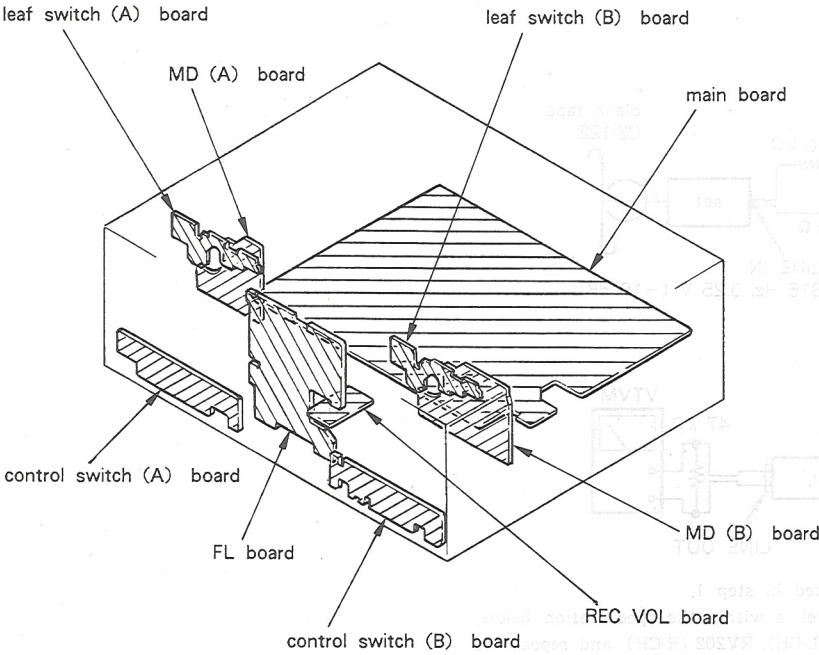




5-1. PRINTED WIRING BOARDS  
• See page 20 for Semiconductor Lead Layouts.

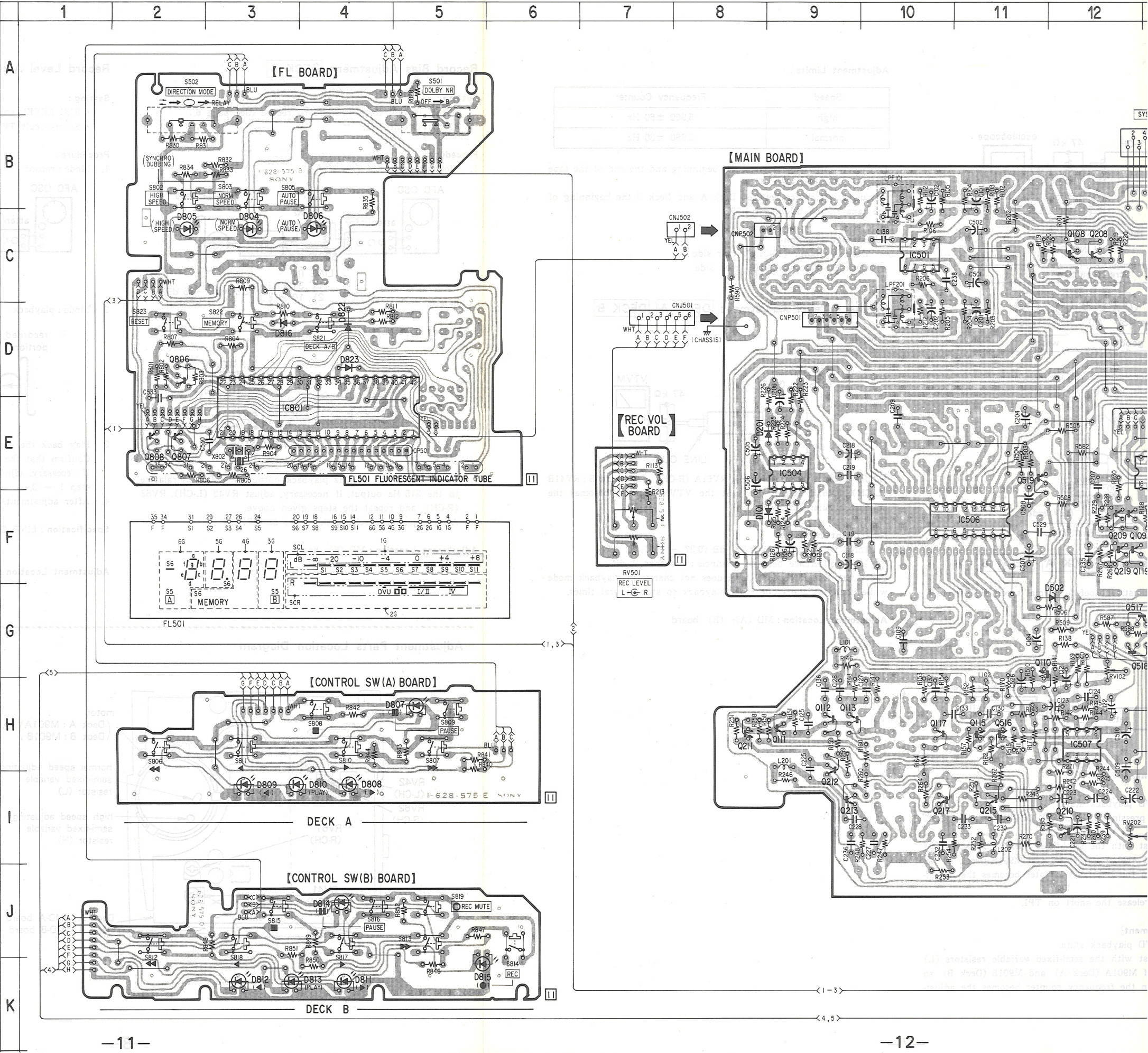
Note :  
• — : parts extracted from the component side.

• Circuit Boards Location

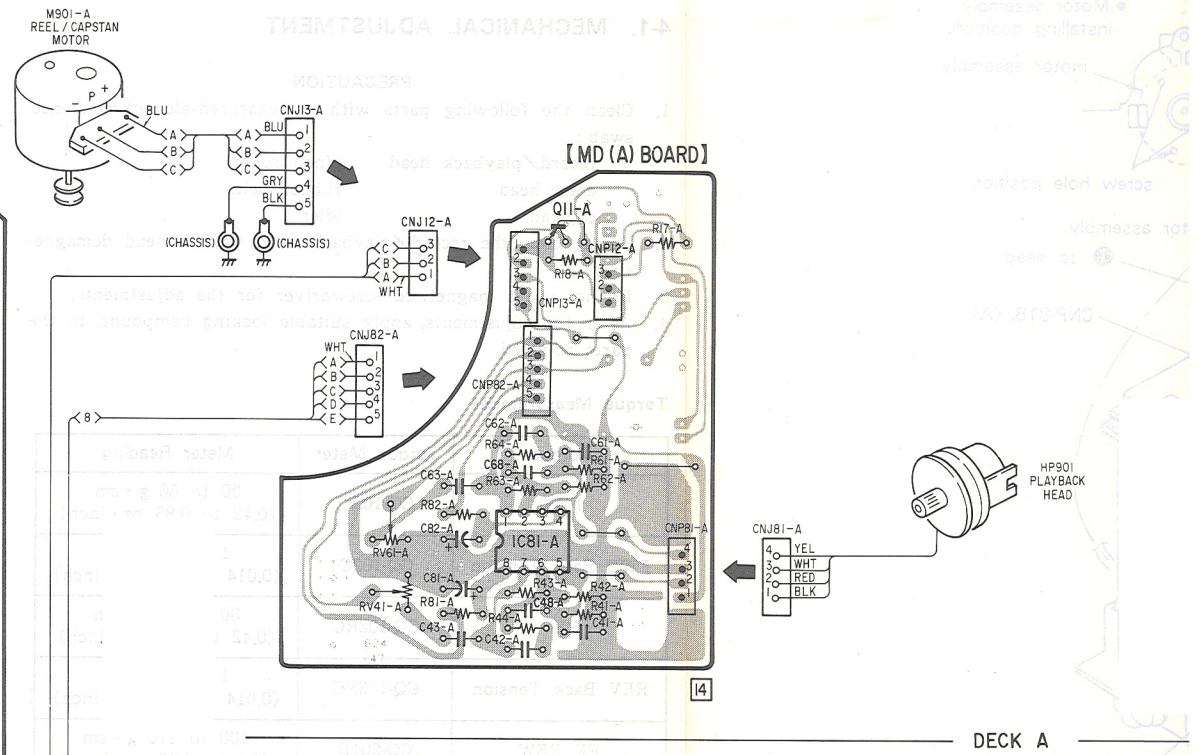
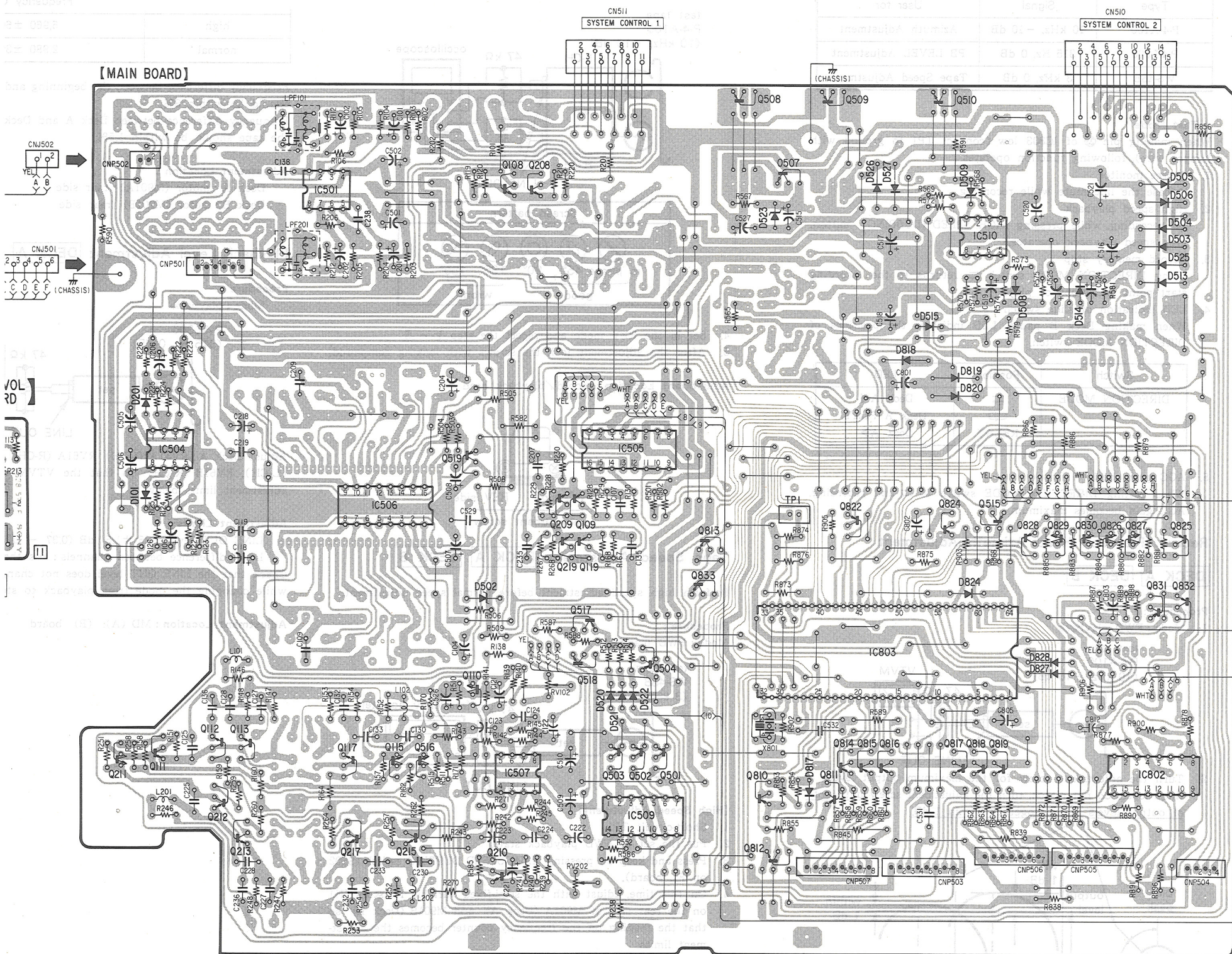


• Semiconductor Location

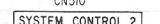
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D11-A	D-29	D816	D-3	Q111	H-9	Q813	F-14
D11-B	I-29	D817	H-14	Q112	H-9	Q814	H-15
D81-B	I-23	D818	E-15	Q113	H-9	Q815	H-15
D101	F-9	D819	E-16	Q115	H-11	Q816	H-15
D201	E-9	D820	E-16	Q117	H-10	Q817	H-16
D502	G-12	D822	D-4	Q119	F-12	Q818	H-16
D503	C-18	D823	D-4	Q208	C-12	Q819	H-16
D504	C-18	D824	G-16	Q209	F-12	Q822	F-15
D505	C-18	D827	G-17	Q210	I-12	Q824	F-16
D506	C-18	D828	G-17	Q211	H-8	Q825	F-18
D508	D-16			Q212	I-9	Q826	F-17
D509	C-16	IC81-A	D-21	Q213	I-9	Q827	F-17
D513	D-18	IC81-B	I-21	Q215	I-11	Q828	F-16
D514	D-17	IC501	C-10	Q217	I-10	Q829	F-17
D515	D-16	IC504	E-9	Q219	F-12	Q830	F-17
D520	H-13	IC505	E-13	Q501	H-13	Q831	G-18
D521	H-13	IC506	F-11	Q502	H-13	Q832	G-18
D522	H-13	IC507	H-12	Q503	H-13	Q833	G-14
D523	C-14	IC509	I-13	Q504	G-13		
D525	D-18	IC510	C-16	Q507	C-14		
D526	C-15	IC801	E-3	Q508	B-14		
D527	C-15	IC802	H-18	Q509	B-15		
D804	C-3	IC803	G-15	Q510	B-16		
D805	C-2			Q515	F-16		
D806	C-4	Q11-A	B-21	Q516	H-11		
D807	H-5	Q11-B	G-22	Q517	G-12		
D808	I-4	Q12-A	D-27	Q518	G-12		
D809	I-3	Q12-B	I-27	Q519	E-11		
D810	I-3	Q81-B	G-22	Q806	D-2		
D811	K-4	Q82-B	H-22	Q807	E-2		
D812	K-3	Q83-B	H-22	Q808	E-2		
D813	K-3	Q108	C-12	Q810	H-14		
D814	J-4	Q109	F-12	Q811	H-15		
D815	K-5	Q110	H-11	Q812	I-14		



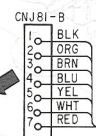
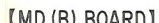
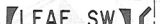




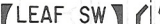




14



14





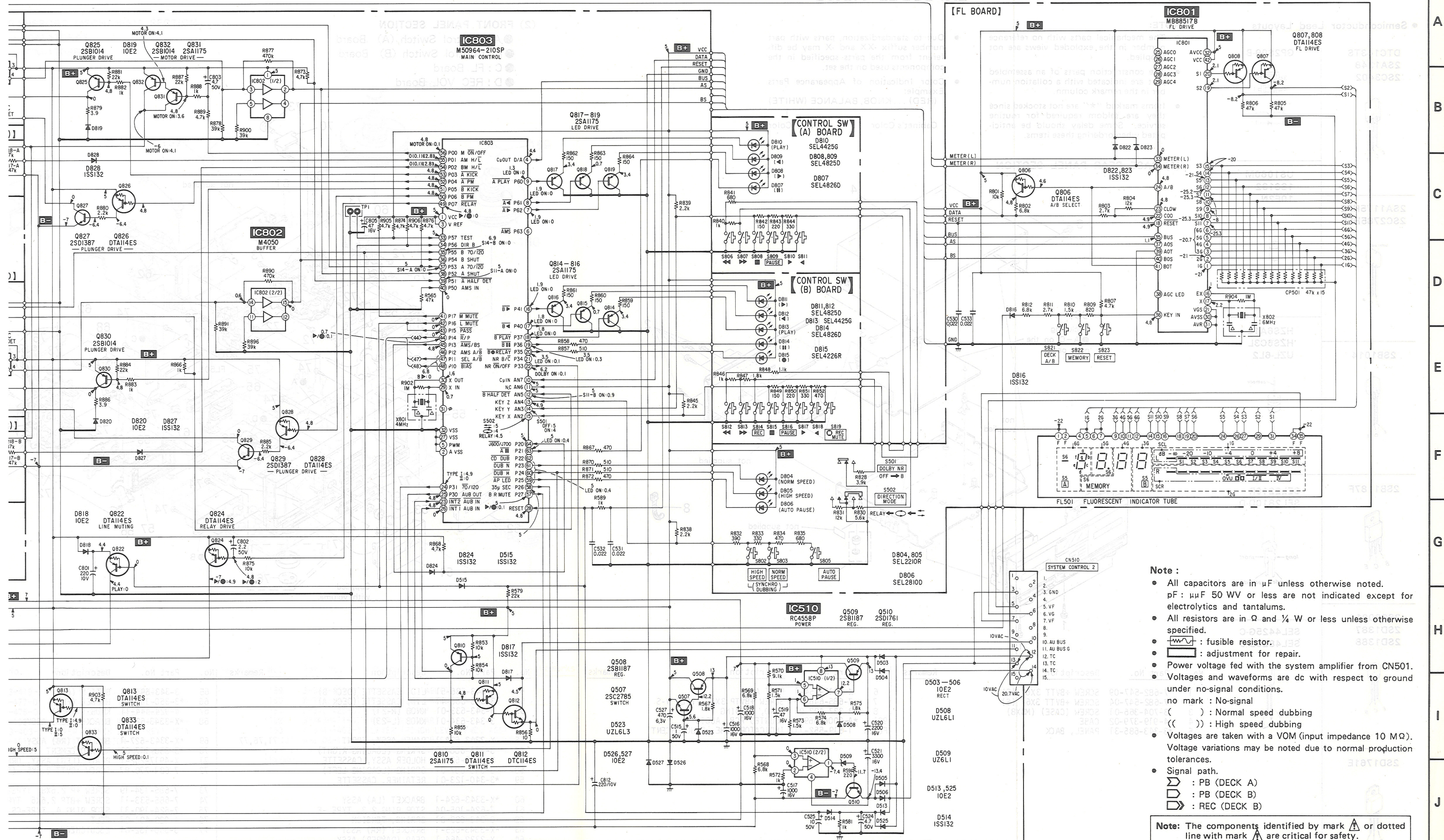
A horizontal number line with 16 equal segments, numbered 1 through 16 from left to right.











## Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}$  W or less unless otherwise specified.
- $\square$ : fusible resistor.
- $\square$ : adjustment for repair.
- Power voltage fed with the system amplifier from CN501.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark: No-signal
- ( ): Normal speed dubbing
- (( )): High speed dubbing
- Voltages are taken with a VOM (input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- $\Rightarrow$ : PB (DECK A)
- $\Rightarrow$ : PB (DECK B)
- $\Rightarrow$ : REC (DECK B)

Note: The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.



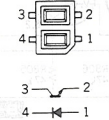
SECTION 6  
EXPLODED VIEWS

• Semiconductor Lead Layouts

DTC143TS  
2SA1348  
2SC3402



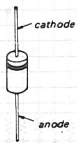
GP2S09-B



2SA1175HFE  
2SC2785HFE



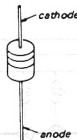
US1060M  
1SS132  
10E2N



2SB1014



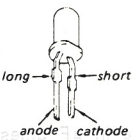
HZS6A1L  
HZS6C3L  
UZL-6L2



2SB1187F



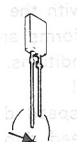
SEL2210R  
SEL2810D-D



2SC2001-L  
2SD1387  
2SD1388



SEL4425G-C  
SEL4826D-C



2SD1761E



NOTE:

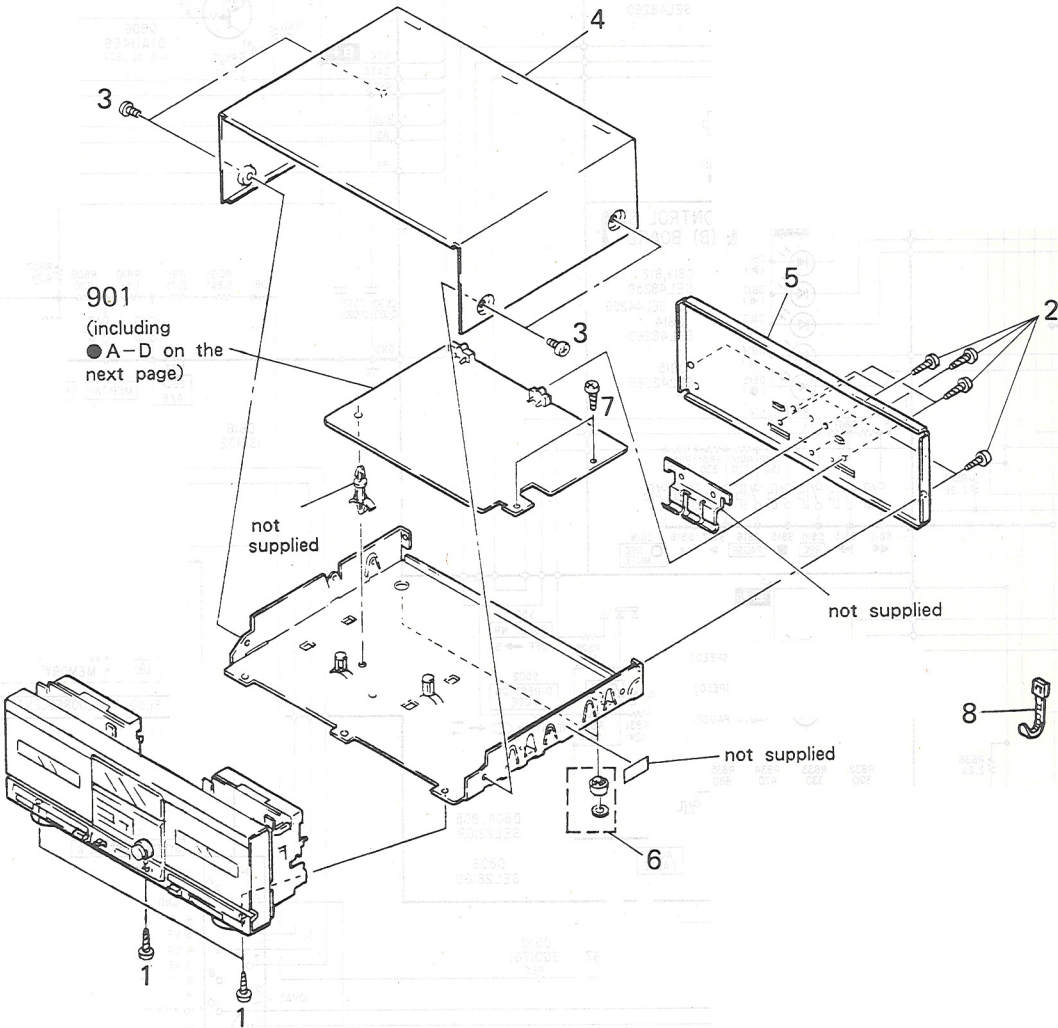
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

• Color Indication of Appearance Parts  
Example:  
(RED) ... KNOB, BALANCE (WHITE)

↑ Cabinet's Color      ↑ Parts' Color

(1) CASE, REAR PANEL SECTION

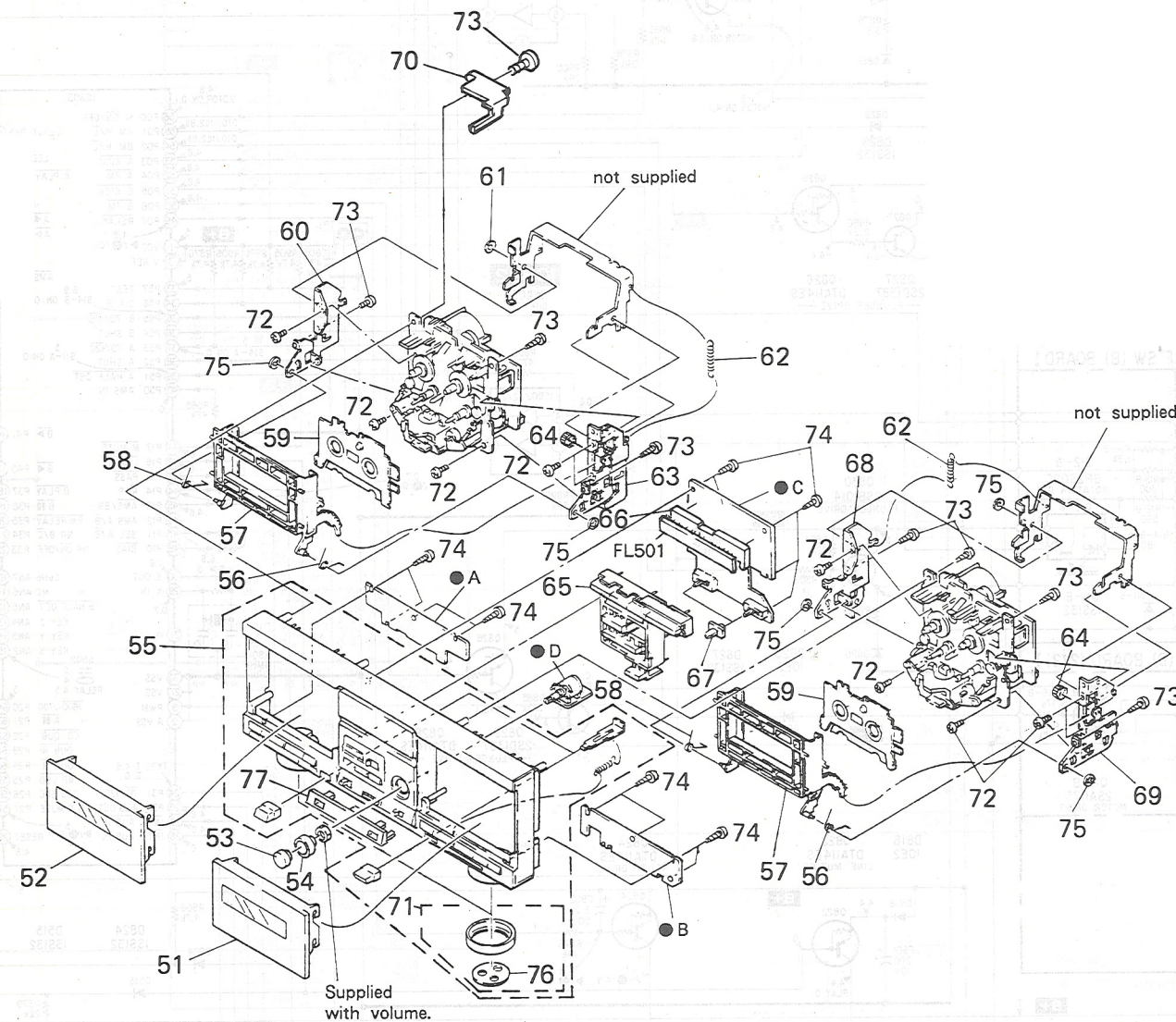


No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	7-682-547-09	SCREW +BVTT 3X6 (S)		6	X-4917-254-1	FOOT ASSY	
2	7-682-547-04	SCREW +BVTT 3X6 (S)		7	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
3	3-704-366-01	SCREW (CASE) (M3X8)		8	*3-337-402-01	BAND, BINDING	
4	4-919-379-02	CASE		901	*A-2006-069-A	MOUNTED PCB, AUDIO	
5	*3-343-685-31	PANEL, BACK		FL501	1-519-552-11	INDICATOR TUBE, FLUORESCENT	



## (2) FRONT PANEL SECTION

- A : Control Switch (A) Board
- B : Control Switch (B) Board
- C : FL Board
- D : REC VOL Board

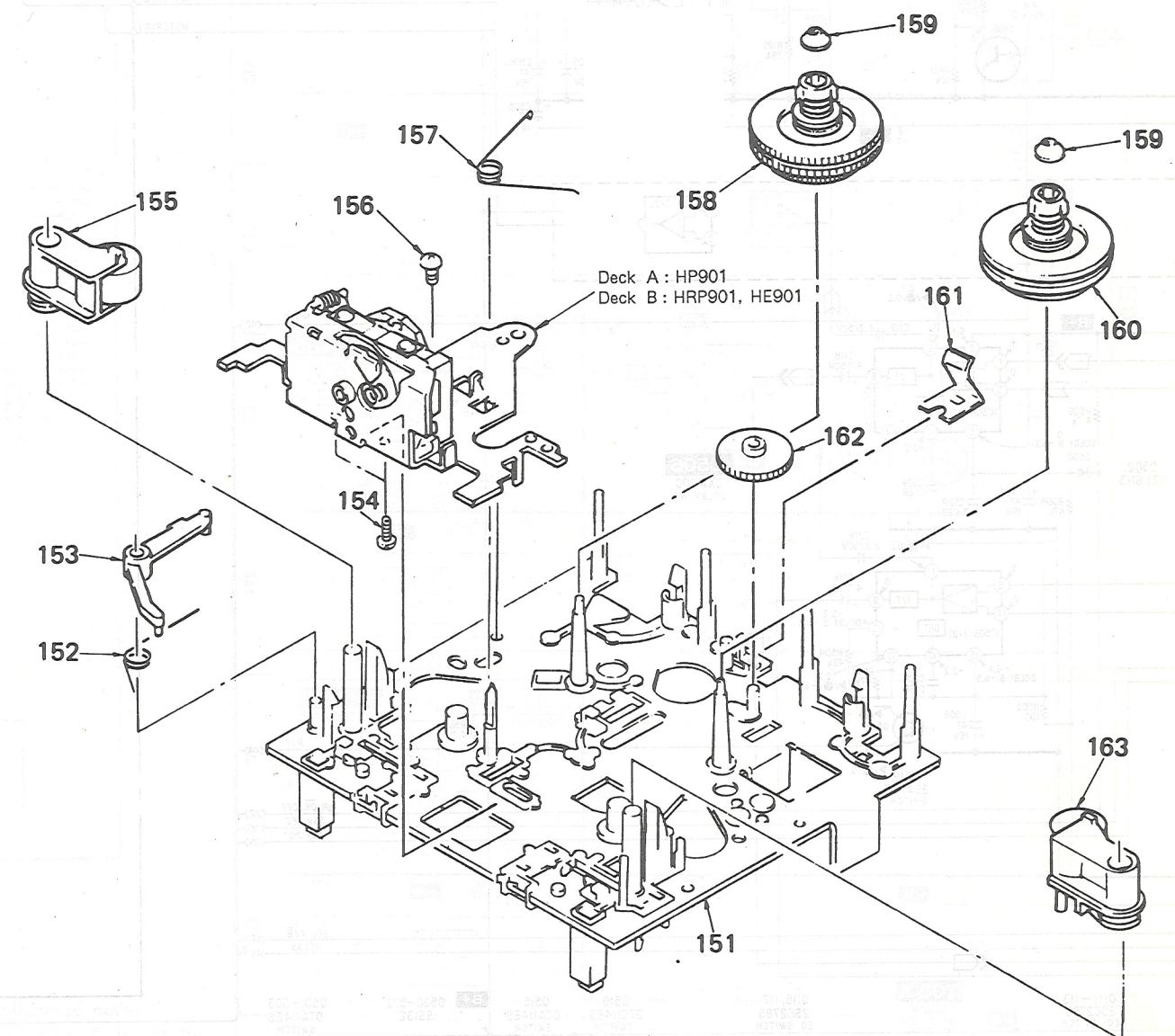


No.	Part No.	Description	Remarks
51	3-343-686-51	LID, CASSETTE (DECK B)	
52	3-343-686-41	LID, CASSETTE (DECK A)	
53	3-343-633-01	KNOB (R-21)	
54	3-343-634-01	KNOB (L-23)	
55	X-3343-634-1	PANEL ASSY, FRONT	71,76,77
56	3-343-688-01	SPRING (LOADING RIGHT)	
57	X-3343-628-1	HOLDER ASSY, CASSETTE	
58	3-343-687-01	SPRING (LOADING LEFT)	
59	*3-340-123-01	RETAINER, CASSETTE	
60	*X-3343-624-1	BRACKET (LA) ASSY	
61	7-624-105-04	STOP RING 2.3, TYPE -E	
62	3-343-689-01	SPRING, TENSION	
63	*X-3343-625-1	BRACKET (RA) ASSY	
64	X-3332-464-1	GEAR (DAMPER) ASSY	

No.	Part No.	Description	Remarks
65	3-343-695-21	BUTTON (C)	
66	*3-350-116-02	HOLDER (FL)	
67	4-924-444-11	KNOB (TIMER)	
68	*X-3343-626-1	BRACKET (LB) ASSY	
69	*X-3343-627-1	BRACKET (RB) ASSY	
70	*3-350-117-01	REINFORCEMENT (FP)	
71	X-4917-252-1	PLATE (LEG) ASSY, ORNAMENTAL	76
72	7-621-770-87	SCREW +BVTT 2.6X5 (S)	
73	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
74	7-685-533-11	SCREW +BTP 2.6X6 TYPE2 N-S	
75	7-624-190-31	STOP RING 4, TYPE-CS	
76	4-928-401-01	FELT	
77	3-350-132-01	ESCUTCHEON	

## (3) TAPE TRANSPORT MECHANISM SECTION-1

- DECK A : TCM-170RA1
- DECK B : TCM-170RB18



No.	Part No.	Description	Remarks
151	*X-3343-418-1	CHASSIS ASSY, MECHANICAL	
152	3-343-477-01	SPRING, TORSION (EJECT SAFTY)	
153	*3-343-476-01	LEVER (EJECT SAFETY LEVER)	
154	7-685-102-19	SCREW +P 2X4 NON-SLIT TYPE 2	
155	X-3343-403-1	LEVER (PINCH LEVER REV) ASSY	
157	3-343-401-01	SPRING, TORSION	
158	X-3343-415-1	TABEL (REV) ASSY, REEL	

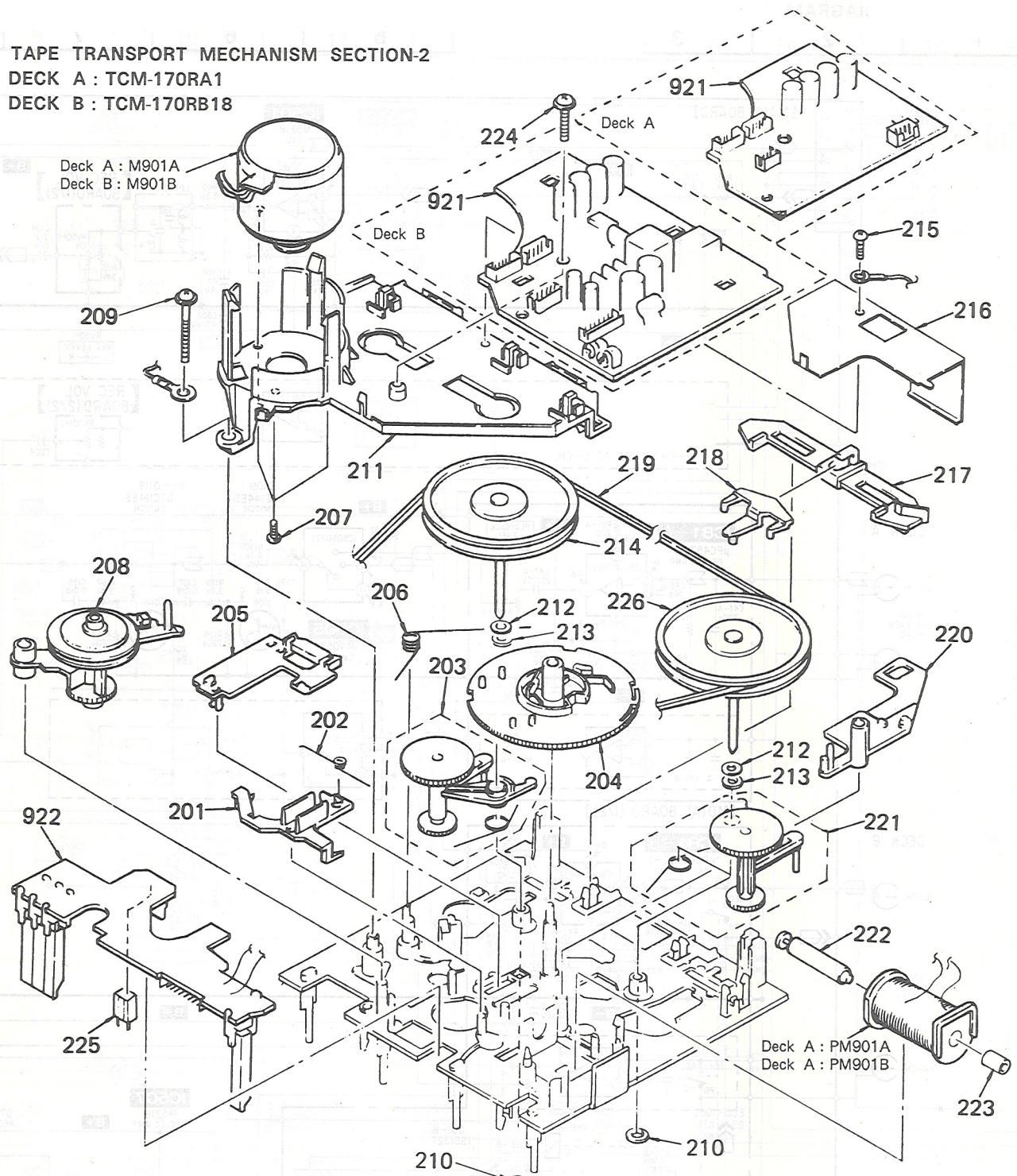
No.	Part No.	Description	Remarks
159	3-343-439-01	CAP (REEL TABLE)	
160	X-3343-401-1	TABEL ASSY, REEL	
161	3-343-420-01	SPRING, LEAF	
162	3-343-411-01	GEAR (FF GEAR)	
163	X-3343-402-1	LEVER (PINCH LEVER FWD) ASSY	
HP901	A-2108-129-A	(DECK A)...CHASSIS ASSY, HEAD	
HE901	A-2108-130-A	(DECK B)...CHASSIS ASSY, HEAD	
HRP901			



# (4) TAPE TRANSPORT MECHANISM SECTION-2

DECK A : TCM-170RA1

DECK B : TCM-170RB18



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
201	3-343-453-01	SLIDER (BRAKE PLATE)		218	3-343-462-01	LEVER	
202	3-343-429-01	SPRING, TORSION		219	3-343-426-02	BELT (CAPSTAN BELT SQUARE)	
203	X-3343-406-1	LEVER (TU ARM REV) ASSY		220	3-343-493-01	LEVER (PM LEVER)	
204	3-343-470-01	GEAR (CAM GEAR)		221	X-3343-405-1	LEVER (TU ARM FWD) ASSY	
205	*3-343-461-01	SLIDER		222	*3-343-425-01	ARBOR(MOVABLE IRON ARBOR),IRON	
206	3-343-430-01	SPRING, TORSION		223	*3-343-424-01	ARBOR (FIXED IRON ARBOR), IRON	
207	7-627-556-28	SCREW +P 2.6X3.5		224	3-343-404-01	SCREW (PTPHW 2X10)	
208	X-3343-414-1	LAVER (FR ARM) ASSY		225	*3-343-419-01	HOLDER (S SENSER A)	
209	3-343-403-01	SCREW (PTTWH 2X18)		226	X-3343-431-1	FLYWHEEL (REV) COMPLETE ASSY	
210	3-343-473-01	WASHER, NYLON		921	*1-624-147-11	(DECK A).....PC BOARD, MD-A	
211	*X-3343-407-1	BASE (THRUST RETAINER) ASSY			*1-625-912-14	(DECK B).....PC BOARD, MD-B	
212	4-605-835-11	WASHER (2.6), POLYSLIDER		922	*1-624-148-11	PC BOARD, LEAF SW	
213	3-307-482-00	WASHER, LUMILER		M901A	X-3343-408-1	(DECK A)...MOTOR ASSY	
214	X-3343-429-1	FLYWHEEL COMPLETE ASSY		M901B	X-3343-408-1	(DECK B)...MOTOR ASSY	
215	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT		PM901A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER	
216	3-343-480-01	PLATE, SHIELD		PM901B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER	
217	*3-343-457-01	SLIDER (REVERSE SLIDER)					



## SECTION 7

### ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**MF:  $\mu$ F, PF:  $\mu$ PF.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

**COILS**

- MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**In each case, U:  $\mu$ , for example:UA....:  $\mu$ A...., UPA....:  $\mu$ PA....,UPC....:  $\mu$ PC, UPD....:  $\mu$ PD...

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description
901	*A-2006-069-A	MOUNTED PCB, AUDIO
921	*1-624-147-11	(DECK A)...PC BOARD, MD-A
	*1-625-912-14	(DECK B)...PC BOARD, MD-B
922	*1-624-148-11	PC BOARD, LEAF SW
C41A	1-162-289-31	CERAMIC 390PF 10% 50V
C41B	1-110-342-11	MYLAR 390PF 5% 50V
C42A	1-136-157-00	FILM 0.022MF 5% 50V
C42B	1-136-157-00	FILM 0.022MF 5% 50V
C43A	1-124-282-00	ELECT 22MF 20% 25V
C43B	1-124-282-00	ELECT 22MF 20% 25V
C44B	1-162-288-31	CERAMIC 330PF 10% 50V
C45B	1-136-273-91	FILM 75PF 5% 630V
C47B	1-162-209-31	CERAMIC 27PF 5% 50V
C48A	1-162-217-31	CERAMIC 56PF 5% 50V
C48B	1-162-217-31	CERAMIC 56PF 5% 50V
C61A	1-162-289-31	CERAMIC 390PF 10% 50V
C61B	1-110-342-11	MYLAR 390PF 5% 50V
C62A	1-136-157-00	FILM 0.022MF 5% 50V
C62B	1-136-157-00	FILM 0.022MF 5% 50V
C63A	1-124-282-00	ELECT 22MF 20% 25V
C63B	1-124-282-00	ELECT 22MF 20% 25V
C64B	1-162-288-31	CERAMIC 330PF 10% 50V
C65B	1-136-273-91	FILM 75PF 5% 630V
C67B	1-162-209-31	CERAMIC 27PF 5% 50V
C68A	1-162-217-31	CERAMIC 56PF 5% 50V
C68B	1-162-217-31	CERAMIC 56PF 5% 50V
C81A	1-126-101-11	ELECT 100MF 20% 16V
C81B	1-126-101-11	ELECT 100MF 20% 16V
C82A	1-126-101-11	ELECT 100MF 20% 16V
C82B	1-126-101-11	ELECT 100MF 20% 16V
C83B	1-124-499-11	ELECT 1MF 20% 50V
C84B	1-124-925-11	ELECT 2.2MF 20% 50V
C85B	1-130-480-00	MYLAR 0.0056MF 5% 50V
C86B	1-130-476-00	MYLAR 0.0027MF 5% 50V
C87B	1-130-476-00	MYLAR 0.0027MF 5% 50V
C88B	1-136-562-11	FILM 0.0082MF 5% 630V
C89B	1-161-494-00	CERAMIC 0.022MF 25V
C90B	1-126-101-11	ELECT 100MF 20% 16V
C101	1-124-925-11	ELECT 2.2MF 20% 50V
C102	1-124-925-11	ELECT 2.2MF 20% 50V
C104	1-124-925-11	ELECT 2.2MF 20% 50V
C106	1-124-927-11	ELECT 4.7MF 20% 50V

Ref.No.	Part No.	Description
C107	1-136-156-00	FILM 0.018MF 5% 50V
C109	1-136-175-00	FILM 0.68MF 5% 50V
C118	1-124-927-11	ELECT 4.7MF 20% 50V
C119	1-124-767-00	ELECT 2.2MF 20% 50V
C121	1-124-927-11	ELECT 4.7MF 20% 50V
C122	1-124-927-11	ELECT 4.7MF 20% 50V
C123	1-124-477-11	ELECT 47MF 20% 16V
C124	1-136-159-00	FILM 0.033MF 5% 50V
C125	1-130-483-00	MYLAR 0.01MF 5% 50V
C127	1-136-154-00	FILM 0.012MF 5% 50V
C128	1-130-475-00	MYLAR 0.0022MF 5% 50V
C130	1-130-477-00	MYLAR 0.0033MF 5% 50V
C132	1-130-483-00	MYLAR 0.01MF 5% 50V
C133	1-130-471-00	MYLAR 0.001MF 5% 50V
C135	1-136-156-00	FILM 0.018MF 5% 50V
C136	1-130-472-00	MYLAR 0.0012MF 5% 50V
C138	1-162-285-31	CERAMIC 180PF 10% 50V
C201	1-124-925-11	ELECT 2.2MF 20% 50V
C202	1-124-925-11	ELECT 2.2MF 20% 50V
C204	1-124-925-11	ELECT 2.2MF 20% 50V
C206	1-124-927-11	ELECT 4.7MF 20% 50V
C207	1-136-156-00	FILM 0.018MF 5% 50V
C209	1-136-175-00	FILM 0.68MF 5% 50V
C218	1-124-927-11	ELECT 4.7MF 20% 50V
C219	1-124-767-00	ELECT 2.2MF 20% 50V
C221	1-124-927-11	ELECT 4.7MF 20% 50V
C222	1-124-927-11	ELECT 4.7MF 20% 50V
C223	1-124-477-11	ELECT 47MF 20% 16V
C224	1-136-159-00	FILM 0.033MF 5% 50V
C225	1-130-483-00	MYLAR 0.01MF 5% 50V
C227	1-136-154-00	FILM 0.012MF 5% 50V
C228	1-130-475-00	MYLAR 0.0022MF 5% 50V
C230	1-130-477-00	MYLAR 0.0033MF 5% 50V
C232	1-130-483-00	MYLAR 0.01MF 5% 50V
C233	1-130-471-00	MYLAR 0.001MF 5% 50V
C235	1-136-156-00	FILM 0.018MF 5% 50V
C236	1-130-472-00	MYLAR 0.0012MF 5% 50V
C238	1-162-285-31	CERAMIC 180PF 10% 50V
C501	1-124-477-11	ELECT 47MF 20% 16V
C502	1-124-477-11	ELECT 47MF 20% 16V
C505	1-124-477-11	ELECT 47MF 20% 16V
C506	1-124-477-11	ELECT 47MF 20% 16V
C507	1-124-477-11	ELECT 47MF 20% 16V
C508	1-124-477-11	ELECT 47MF 20% 16V
C509	1-124-477-11	ELECT 47MF 20% 16V



Ref.No.	Part No.	Description
C510	1-124-477-11	ELECT 47MF 20% 16V
C515	1-124-499-11	ELECT 1MF 20% 50V
C516	1-124-360-00	ELECT 1000MF 20% 16V
C517	1-124-360-00	ELECT 1000MF 20% 16V
C518	1-124-360-00	ELECT 1000MF 20% 16V
C519	1-124-477-11	ELECT 47MF 20% 16V
C520	1-124-556-11	ELECT 2200MF 20% 16V
C521	1-124-887-00	ELECT 3300MF 20% 16V
C524	1-124-927-11	ELECT 4.7MF 20% 50V
C525	1-123-875-11	ELECT 10MF 20% 50V
C526	1-124-925-11	ELECT 2.2MF 20% 50V
C527	1-124-472-11	ELECT 470MF 20% 6.3V
C529	1-161-494-00	CERAMIC 0.022MF -25V
C530	1-161-494-00	CERAMIC 0.022MF -25V
C531	1-161-494-00	CERAMIC 0.022MF -25V
C532	1-161-494-00	CERAMIC 0.022MF -25V
C533	1-161-494-00	CERAMIC 0.022MF -25V
C801	1-126-176-11	ELECT 220MF 20% 10V
C802	1-124-925-11	ELECT 2.2MF 20% 50V
C803	1-124-927-11	ELECT 4.7MF 20% 50V
C805	1-124-477-11	ELECT 47MF 20% 16V
C812	1-126-176-11	ELECT 220MF 20% 10V
CN501	*1-564-340-00	PIN, CONNECTOR 6P
CN502	*1-564-336-00	PIN, CONNECTOR 2P
CN503	*1-564-342-11	PIN, CONNECTOR 8P
CN504	*1-564-338-00	PIN, CONNECTOR 4P
CN505	*1-564-342-61	PIN, CONNECTOR 8P
CN506	*1-564-341-71	PIN, CONNECTOR 7P
CN507	*1-564-342-11	PIN, CONNECTOR 8P
CN510	*1-566-859-11	SOCKET, CONNECTOR 15P(SYSTEM CONTROL 2)
CN511	*1-566-858-11	SOCKET, CONNECTOR 11P(SYSTEM CONTROL 1)
CNP11A	*1-564-501-11	PIN, CONNECTOR 8P
CNP11B	*1-564-501-11	PIN, CONNECTOR 8P
CNP12A	*1-564-337-00	PIN, CONNECTOR 3P
CNP12B	*1-564-337-61	PIN, CONNECTOR 3P
CNP13A	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P
CNP13B	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P
CNP81A	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P
CNP81B	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P
CNP82A	*1-564-339-00	PIN, CONNECTOR 5P
CNP82B	*1-564-339-61	PIN, CONNECTOR 5P
CNP83B	*1-564-338-61	PIN, CONNECTOR 4P
CP501	1-233-167-11	COMPOSITION CIRCUIT BLOCK
D11A	8-719-107-94	DIODE 1SS132
D11B	8-719-107-94	DIODE 1SS132
D81B	8-719-107-94	DIODE 1SS132
D101	8-719-000-26	DIODE US1060M
D201	8-719-000-26	DIODE US1060M
D502	8-719-933-41	DIODE HZS6C3L
D503	8-719-200-77	DIODE 10E2N
D504	8-719-200-77	DIODE 10E2N
D505	8-719-200-77	DIODE 10E2N
D506	8-719-200-77	DIODE 10E2N
D508	8-719-900-33	DIODE HZL-6L2

Ref.No.	Part No.	Description
D509	8-719-900-33	DIODE HZL-6L2
D513	8-719-200-77	DIODE 10E2N
D514	8-719-000-26	DIODE US1060M
D515	8-719-000-26	DIODE US1060M
D520	8-719-000-26	DIODE US1060M
D521	8-719-000-26	DIODE US1060M
D522	8-719-000-26	DIODE US1060M
D523	8-719-000-51	DIODE UZL-6L2
D525	8-719-200-77	DIODE 10E2N
D526	8-719-200-77	DIODE 10E2N
D527	8-719-200-77	DIODE 10E2N
D804	8-719-300-71	DIODE SEL2210R
D805	8-719-300-71	DIODE SEL2210R
D806	8-719-311-61	DIODE SEL2810D-D
D807	8-719-312-29	DIODE SEL4826D-C
D808	8-719-311-70	DIODE SEL4825D-C
D809	8-719-311-70	DIODE SEL4825D-C
D810	8-719-304-96	DIODE SEL4425G-C
D811	8-719-311-70	DIODE SEL4825D-C
D812	8-719-311-70	DIODE SEL4825D-C
D813	8-719-304-96	DIODE SEL4425G-C
D814	8-719-312-29	DIODE SEL4826D-C
D815	8-719-312-30	DIODE SEL4226R-C
D816	8-719-000-26	DIODE US1060M
D817	8-719-000-26	DIODE US1060M
D818	8-719-200-77	DIODE 10E2N
D819	8-719-200-77	DIODE 10E2N
D820	8-719-200-77	DIODE 10E2N
D822	8-719-000-26	DIODE US1060M
D823	8-719-000-26	DIODE US1060M
D824	8-719-000-26	DIODE US1060M
D827	8-719-000-26	DIODE US1060M
D828	8-719-000-26	DIODE US1060M
FL501	1-519-552-11	INDICATOR TUBE, FLUORESCENT
HE901	A-2108-130-A	(DECK B)...CHASSIS ASSY, HEAD
HRP901		
HP901	A-2108-129-A	(DECK A)...CHASSIS ASSY, HEAD
IC81A	8-759-111-44	IC UPC4570C-1
IC81B	8-759-111-44	IC UPC4570C-1
IC501	8-759-601-02	IC M5218P
IC504	8-759-601-02	IC M5218P
IC505	8-759-040-53	IC MC14053BCP
IC506	8-752-031-67	IC CXA1100P
IC507	8-759-601-02	IC M5218P
IC509	8-759-601-23	IC M4023BP
IC510	8-759-945-58	IC RC4558P
IC801	8-759-983-68	IC MB88517B-1023N
IC802	8-759-601-38	IC M4050BP
IC803	8-759-633-22	IC M50964-210SP
L41B	1-410-780-11	INDUCTOR 27MMH
L61B	1-410-780-11	INDUCTOR 27MMH
L101	1-410-775-21	INDUCTOR 10MMH
L102	1-410-775-21	INDUCTOR 10MMH
L201	1-410-775-21	INDUCTOR 10MMH
L202	1-410-775-21	INDUCTOR 10MMH



Ref.No.	Part No.	Description
LPF101	1-236-087-11	FILTER, LOW PASS
LPF201	1-236-087-11	FILTER, LOW PASS
M901A	X-3343-408-1	(DECK A)...MOTOR ASSY
M901B	X-3343-408-1	(DECK B)...MOTOR ASSY
PM901A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER
PM901B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER
Q11A	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q11B	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q12A	8-719-939-23	?TRANSISTOR GP2S09-C
Q12B	8-719-939-23	?TRANSISTOR GP2S09-C
Q81B	8-729-111-29	TRANSISTOR 2SD1388
Q82B	8-729-100-12	TRANSISTOR 2SC2001-L
Q83B	8-729-100-12	TRANSISTOR 2SC2001-L
Q108	8-729-900-74	TRANSISTOR DTC143TS
Q109	8-729-806-28	TRANSISTOR 2SC3402
Q110	8-729-900-74	TRANSISTOR DTC143TS
Q111	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q112	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q113	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q115	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q117	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q119	8-729-806-28	TRANSISTOR 2SC3402
Q208	8-729-900-74	TRANSISTOR DTC143TS
Q209	8-729-806-28	TRANSISTOR 2SC3402
Q210	8-729-900-74	TRANSISTOR DTC143TS
Q211	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q212	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q213	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q215	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q217	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q219	8-729-806-28	TRANSISTOR 2SC3402
Q501	8-729-806-10	TRANSISTOR 2SA1348
Q502	8-729-806-10	TRANSISTOR 2SA1348
Q503	8-729-806-10	TRANSISTOR 2SA1348
Q504	8-729-806-10	TRANSISTOR 2SA1348
Q507	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q508	8-729-920-91	TRANSISTOR 2SB1187-F
Q509	8-729-920-91	TRANSISTOR 2SB1187-F
Q510	8-729-808-76	TRANSISTOR 2SD1761-E
Q515	8-729-806-10	TRANSISTOR 2SA1348
Q516	8-729-806-28	TRANSISTOR 2SC3402
Q517	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q518	8-729-806-28	TRANSISTOR 2SC3402
Q519	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q806	8-729-806-10	TRANSISTOR 2SA1348
Q807	8-729-806-10	TRANSISTOR 2SA1348
Q808	8-729-806-10	TRANSISTOR 2SA1348
Q810	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q811	8-729-806-10	TRANSISTOR 2SA1348
Q812	8-729-806-28	TRANSISTOR 2SC3402
Q813	8-729-806-10	TRANSISTOR 2SA1348
Q814	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q815	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q816	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q817	8-729-119-76	TRANSISTOR 2SA1175-HFE


Ref.No.	Part No.	Description
Q818	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q819	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q822	8-729-806-10	TRANSISTOR 2SA1348
Q824	8-729-806-10	TRANSISTOR 2SA1348
Q825	8-729-802-22	TRANSISTOR 2SB1014
Q826	8-729-806-10	TRANSISTOR 2SA1348
Q827	8-729-801-93	TRANSISTOR 2SD1387
Q828	8-729-806-10	TRANSISTOR 2SA1348
Q829	8-729-801-93	TRANSISTOR 2SD1387
Q830	8-729-802-22	TRANSISTOR 2SB1014
Q831	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q832	8-729-802-22	TRANSISTOR 2SB1014
Q833	8-729-806-10	TRANSISTOR 2SA1348
R11B	1-247-834-11	CARBON 1.3K 5% 1/4W
R12B	1-249-414-11	CARBON 560 5% 1/4W
R13B	1-247-818-11	CARBON 300 5% 1/4W
R14A	1-249-408-11	CARBON 180 5% 1/4W
R14B	1-249-408-11	CARBON 180 5% 1/4W
R17A	1-249-437-11	CARBON 47K 5% 1/4W
R17B	1-249-437-11	CARBON 47K 5% 1/4W
R18A	1-249-437-11	CARBON 47K 5% 1/4W
R18B	1-249-437-11	CARBON 47K 5% 1/4W
R41A	1-247-881-00	CARBON 120K 5% 1/4W
R41B	1-247-881-00	CARBON 120K 5% 1/4W
R42A	1-249-405-11	CARBON 100 5% 1/4W
R42B	1-249-405-11	CARBON 100 5% 1/4W
R43A	1-247-882-11	CARBON 130K 5% 1/4W
R43B	1-247-882-11	CARBON 130K 5% 1/4W
R44A	1-249-426-11	CARBON 5.6K 5% 1/4W
R44B	1-249-426-11	CARBON 5.6K 5% 1/4W
R45B	1-249-430-11	CARBON 12K 5% 1/4W
R61A	1-247-881-00	CARBON 120K 5% 1/4W
R61B	1-247-881-00	CARBON 120K 5% 1/4W
R62A	1-249-405-11	CARBON 100 5% 1/4W
R62B	1-249-405-11	CARBON 100 5% 1/4W
R63A	1-247-882-11	CARBON 130K 5% 1/4W
R63B	1-247-882-11	CARBON 130K 5% 1/4W
R64A	1-249-426-11	CARBON 5.6K 5% 1/4W
R64B	1-249-426-11	CARBON 5.6K 5% 1/4W
R65B	1-249-430-11	CARBON 12K 5% 1/4W
R81A	1-249-409-11	CARBON 220 5% 1/4W
R81B	1-249-409-11	CARBON 220 5% 1/4W
R82A	1-249-409-11	CARBON 220 5% 1/4W
R82B	1-249-409-11	CARBON 220 5% 1/4W
R83B	1-249-429-11	CARBON 10K 5% 1/4W
R84B	1-212-849-00	FUSIBLE 4.7 5% 1/4W F
R85B	1-249-435-11	CARBON 33K 5% 1/4W
R86B	1-249-435-11	CARBON 33K 5% 1/4W
R101	1-249-417-11	CARBON 1K 5% 1/4W
R102	1-249-436-11	CARBON 39K 5% 1/4W
R103	1-249-441-11	CARBON 100K 5% 1/4W
R104	1-249-433-11	CARBON 22K 5% 1/4W
R105	1-249-433-11	CARBON 22K 5% 1/4W

**Note:** The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.



Ref.No.	Part No.	Description			
R106	1-249-433-11	CARBON	22K	5%	1/4W
R112	1-249-423-11	CARBON	3.3K	5%	1/4W
R113	1-249-436-11	CARBON	39K	5%	1/4W
R119	1-249-429-11	CARBON	10K	5%	1/4W
R120	1-249-421-11	CARBON	2.2K	5%	1/4W
R122	1-249-436-11	CARBON	39K	5%	1/4W
R123	1-249-429-11	CARBON	10K	5%	1/4W
R124	1-249-437-11	CARBON	47K	5%	1/4W
R125	1-249-429-11	CARBON	10K	5%	1/4W
R126	1-249-397-11	CARBON	22	5%	1/4W
R128	1-247-887-00	CARBON	220K	5%	1/4W
R129	1-249-424-11	CARBON	3.9K	5%	1/4W
R130	1-249-423-11	CARBON	3.3K	5%	1/4W
R138	1-249-429-11	CARBON	10K	5%	1/4W
R139	1-249-429-11	CARBON	10K	5%	1/4W
R140	1-249-421-11	CARBON	2.2K	5%	1/4W
R141	1-249-441-11	CARBON	100K	5%	1/4W
R142	1-247-887-00	CARBON	220K	5%	1/4W
R143	1-249-421-11	CARBON	2.2K	5%	1/4W
R144	1-249-437-11	CARBON	47K	5%	1/4W
R145	1-249-437-11	CARBON	47K	5%	1/4W
R146	1-249-409-11	CARBON	220	5%	1/4W
R147	1-249-427-11	CARBON	6.8K	5%	1/4W
R148	1-247-848-11	CARBON	5.1K	5%	1/4W
R151	1-249-441-11	CARBON	100K	5%	1/4W
R152	1-249-407-11	CARBON	150	5%	1/4W
R153	1-249-417-11	CARBON	1K	5%	1/4W
R154	1-249-426-11	CARBON	5.6K	5%	1/4W
R157	1-249-441-11	CARBON	100K	5%	1/4W
R158	1-249-421-11	CARBON	2.2K	5%	1/4W
R159	1-249-437-11	CARBON	47K	5%	1/4W
R160	1-249-437-11	CARBON	47K	5%	1/4W
R162	1-249-425-11	CARBON	4.7K	5%	1/4W
R164	1-249-437-11	CARBON	47K	5%	1/4W
R167	1-247-840-00	CARBON	2.4K	5%	1/4W
R168	1-247-887-00	CARBON	220K	5%	1/4W
R170	1-249-438-11	CARBON	56K	5%	1/4W
R171	1-249-437-11	CARBON	47K	5%	1/4W
R201	1-249-417-11	CARBON	1K	5%	1/4W
R202	1-249-436-11	CARBON	39K	5%	1/4W
R203	1-249-441-11	CARBON	100K	5%	1/4W
R204	1-249-433-11	CARBON	22K	5%	1/4W
R205	1-249-433-11	CARBON	22K	5%	1/4W
R206	1-249-433-11	CARBON	22K	5%	1/4W
R212	1-249-423-11	CARBON	3.3K	5%	1/4W
R213	1-249-436-11	CARBON	39K	5%	1/4W
R219	1-249-429-11	CARBON	10K	5%	1/4W
R220	1-249-421-11	CARBON	2.2K	5%	1/4W
R222	1-249-436-11	CARBON	39K	5%	1/4W
R223	1-249-429-11	CARBON	10K	5%	1/4W
R224	1-249-437-11	CARBON	47K	5%	1/4W
R225	1-249-429-11	CARBON	10K	5%	1/4W
R226	1-249-397-11	CARBON	22	5%	1/4W
R228	1-247-887-00	CARBON	220K	5%	1/4W
R229	1-249-424-11	CARBON	3.9K	5%	1/4W
R230	1-249-423-11	CARBON	3.3K	5%	1/4W
R238	1-249-429-11	CARBON	10K	5%	1/4W

Ref.No.	Part No.	Description			
R239	1-249-429-11	CARBON	10K	5%	1/4W
R240	1-249-421-11	CARBON	2.2K	5%	1/4W
R241	1-249-441-11	CARBON	100K	5%	1/4W
R242	1-247-887-00	CARBON	220K	5%	1/4W
R243	1-249-421-11	CARBON	2.2K	5%	1/4W
R244	1-249-437-11	CARBON	47K	5%	1/4W
R245	1-249-437-11	CARBON	47K	5%	1/4W
R246	1-249-409-11	CARBON	220	5%	1/4W
R247	1-249-427-11	CARBON	6.8K	5%	1/4W
R248	1-247-848-11	CARBON	5.1K	5%	1/4W
R251	1-249-441-11	CARBON	100K	5%	1/4W
R252	1-249-407-11	CARBON	150	5%	1/4W
R253	1-249-417-11	CARBON	1K	5%	1/4W
R254	1-249-426-11	CARBON	5.6K	5%	1/4W
R257	1-249-441-11	CARBON	100K	5%	1/4W
R258	1-249-421-11	CARBON	2.2K	5%	1/4W
R259	1-249-437-11	CARBON	47K	5%	1/4W
R260	1-249-437-11	CARBON	47K	5%	1/4W
R262	1-249-425-11	CARBON	4.7K	5%	1/4W
R264	1-249-437-11	CARBON	47K	5%	1/4W
R267	1-247-840-00	CARBON	2.4K	5%	1/4W
R268	1-247-887-00	CARBON	220K	5%	1/4W
R270	1-249-438-11	CARBON	56K	5%	1/4W
R271	1-249-437-11	CARBON	47K	5%	1/4W
R502	1-249-429-11	CARBON	10K	5%	1/4W
R503	1-249-437-11	CARBON	47K	5%	1/4W
R504	1-215-460-00	METAL	43K	1%	1/6W
R505	1-249-405-11	CARBON	100	5%	1/4W
R506	1-249-405-11	CARBON	100	5%	1/4W
R508	1-249-437-11	CARBON	47K	5%	1/4W
R509	1-249-425-11	CARBON	4.7K	5%	1/4W
R510	1-249-441-11	CARBON	100K	5%	1/4W
R511	1-249-429-11	CARBON	10K	5%	1/4W
R512	1-249-411-11	CARBON	330	5%	1/4W
R513	1-247-844-11	CARBON	3.6K	5%	1/4W
R514	1-249-429-11	CARBON	10K	5%	1/4W
R515	1-249-421-11	CARBON	2.2K	5%	1/4W
R552	1-249-425-11	CARBON	4.7K	5%	1/4W
R555	1-249-437-11	CARBON	47K	5%	1/4W
R567	1-249-420-11	CARBON	1.8K	5%	1/4W
R568	1-249-427-11	CARBON	6.8K	5%	1/4W
R569	1-249-427-11	CARBON	6.8K	5%	1/4W
R570	1-247-854-11	CARBON	9.1K	5%	1/4W
R571	1-249-419-11	CARBON	1.5K	5%	1/4W
R572	1-249-417-11	CARBON	1K	5%	1/4W
R573	1-249-419-11	CARBON	1.5K	5%	1/4W
R574	1-249-427-11	CARBON	6.8K	5%	1/4W
R575	1-249-420-11	CARBON	1.8K	5%	1/4W
R579	1-249-433-11	CARBON	22K	5%	1/4W
R581	1-249-417-11	CARBON	1K	5%	1/4W
R582	1-249-425-11	CARBON	4.7K	5%	1/4W
R585	1-249-421-11	CARBON	2.2K	5%	1/4W
R586	1-249-425-11	CARBON	4.7K	5%	1/4W
R587	1-247-887-00	CARBON	220K	5%	1/4W
R588	1-249-439-11	CARBON	68K	5%	1/4W
R589	1-249-417-11	CARBON	1K	5%	1/4W
R590	1-249-409-11	CARBON	220	5%	1/4W

Note: The components identified by mark  are critical for safety. Replace only with part number specified.



Ref.No. Part No. Description

R591	1-249-409-11	CARBON	220	5%	1/4W
R801	1-249-429-11	CARBON	10K	5%	1/4W
R802	1-249-427-11	CARBON	6.8K	5%	1/4W
R803	1-249-422-11	CARBON	2.7K	5%	1/4W
R804	1-249-430-11	CARBON	12K	5%	1/4W
R805	1-249-437-11	CARBON	47K	5%	1/4W
R806	1-249-437-11	CARBON	47K	5%	1/4W
R807	1-249-425-11	CARBON	4.7K	5%	1/4W
R809	1-249-416-11	CARBON	820	5%	1/4W
R810	1-249-419-11	CARBON	1.5K	5%	1/4W
R811	1-249-422-11	CARBON	2.7K	5%	1/4W
R812	1-249-427-11	CARBON	6.8K	5%	1/4W
R828	1-249-424-11	CARBON	3.9K	5%	1/4W
R830	1-249-426-11	CARBON	5.6K	5%	1/4W
R831	1-249-430-11	CARBON	12K	5%	1/4W
R832	1-249-412-11	CARBON	390	5%	1/4W
R833	1-249-411-11	CARBON	330	5%	1/4W
R834	1-249-413-11	CARBON	470	5%	1/4W
R835	1-249-415-11	CARBON	680	5%	1/4W
R838	1-249-421-11	CARBON	2.2K	5%	1/4W
R839	1-249-421-11	CARBON	2.2K	5%	1/4W
R840	1-249-417-11	CARBON	1K	5%	1/4W
R841	1-249-415-11	CARBON	680	5%	1/4W
R842	1-249-407-11	CARBON	150	5%	1/4W
R843	1-249-409-11	CARBON	220	5%	1/4W
R844	1-249-411-11	CARBON	330	5%	1/4W
R845	1-249-421-11	CARBON	2.2K	5%	1/4W
R846	1-249-417-11	CARBON	1K	5%	1/4W
R847	1-249-420-11	CARBON	1.8K	5%	1/4W
R848	1-247-832-11	CARBON	1.1K	5%	1/4W
R849	1-249-407-11	CARBON	150	5%	1/4W
R850	1-249-409-11	CARBON	220	5%	1/4W
R851	1-249-411-11	CARBON	330	5%	1/4W
R852	1-249-413-11	CARBON	470	5%	1/4W
R853	1-249-429-11	CARBON	10K	5%	1/4W
R854	1-249-429-11	CARBON	10K	5%	1/4W
R855	1-249-429-11	CARBON	10K	5%	1/4W
R856	1-249-393-11	CARBON	10	5%	1/4W
R857	1-249-442-11	CARBON	510	5%	1/4W
R858	1-249-413-11	CARBON	470	5%	1/4W
R859	1-249-407-11	CARBON	150	5%	1/4W
R860	1-249-407-11	CARBON	150	5%	1/4W
R861	1-249-407-11	CARBON	150	5%	1/4W
R862	1-249-407-11	CARBON	150	5%	1/4W
R863	1-249-407-11	CARBON	150	5%	1/4W

Ref.No. Part No. Description

R864	1-249-407-11	CARBON	150	5%	1/4W
R866	1-249-417-11	CARBON	1K	5%	1/4W
R867	1-249-413-11	CARBON	470	5%	1/4W
R868	1-249-425-11	CARBON	4.7K	5%	1/4W
R870	1-249-442-11	CARBON	510	5%	1/4W
R871	1-249-442-11	CARBON	510	5%	1/4W
R872	1-249-413-11	CARBON	470	5%	1/4W
R873	1-249-425-11	CARBON	4.7K	5%	1/4W
R874	1-249-425-11	CARBON	4.7K	5%	1/4W
R875	1-249-429-11	CARBON	10K	5%	1/4W
R876	1-249-425-11	CARBON	4.7K	5%	1/4W
R877	1-247-895-00	CARBON	470K	5%	1/4W
R878	1-249-436-11	CARBON	39K	5%	1/4W
R879	1-249-388-11	CARBON	3.9	5%	1/4W
R880	1-249-421-11	CARBON	2.2K	5%	1/4W
R881	1-249-433-11	CARBON	22K	5%	1/4W
R882	1-249-417-11	CARBON	1K	5%	1/4W
R883	1-249-417-11	CARBON	1K	5%	1/4W
R884	1-249-433-11	CARBON	22K	5%	1/4W
R885	1-249-421-11	CARBON	2.2K	5%	1/4W
R886	1-249-388-11	CARBON	3.9	5%	1/4W
R887	1-249-433-11	CARBON	22K	5%	1/4W
R888	1-249-417-11	CARBON	1K	5%	1/4W
R889	1-249-425-11	CARBON	4.7K	5%	1/4W
R890	1-247-895-00	CARBON	470K	5%	1/4W
R891	1-249-436-11	CARBON	39K	5%	1/4W
R896	1-249-436-11	CARBON	39K	5%	1/4W
R900	1-249-436-11	CARBON	39K	5%	1/4W
R902	1-247-903-00	CARBON	1M	5%	1/4W
R903	1-249-425-11	CARBON	4.7K	5%	1/4W
R904	1-247-903-00	CARBON	1M	5%	1/4W
R905	1-249-425-11	CARBON	4.7K	5%	1/4W
R906	1-249-425-11	CARBON	4.7K	5%	1/4W
RV4 1A	1-228-989-00	RES, ADJ, CARBON	470		
RV4 1B	1-228-989-00	RES, ADJ, CARBON	470		
RV4 2B	1-230-500-11	RES, ADJ, CARBON	220K		
RV6 1A	1-228-989-00	RES, ADJ, CARBON	470		
RV6 1B	1-228-989-00	RES, ADJ, CARBON	470		
RV6 2B	1-230-500-11	RES, ADJ, CARBON	220K		
RV102	1-228-994-00	RES, ADJ, CARBON	10K		
RV202	1-228-994-00	RES, ADJ, CARBON	10K		
RV501	1-238-300-11	RES, VAR, CARBON	10K/10K(REC LEVEL)		
RY81B	1-515-614-11	RELAY			



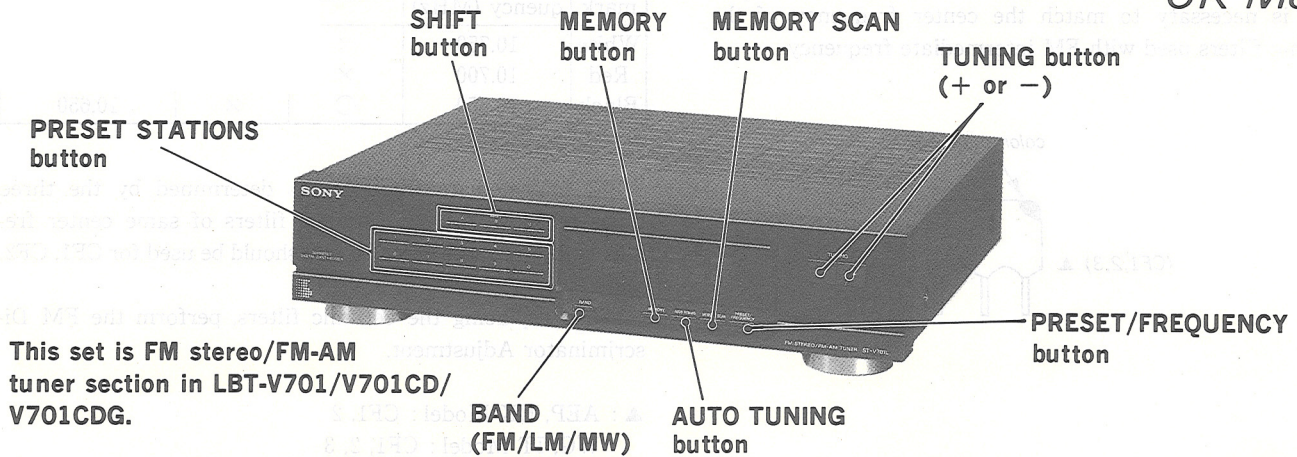
Ref.No.	Part No.	Description
S11A	1-571-281-21	SWITCH, LEAF (HALF DET)
S11B	1-571-281-21	SWITCH, LEAF (HALF DET)
S12B	1-571-281-21	SWITCH, LEAF (SIDE A ERASE PROOF)
S13B	1-571-281-21	SWITCH, LEAF (SIDE B ERASE PROOF)
S14A	1-571-281-21	SWITCH, LEAF (CrO2)
S14B	1-571-281-21	SWITCH, LEAF (CrO2)
S501	1-570-974-11	SWITCH, SLIDE (DOLBY NR)
S502	1-571-520-21	SWITCH, SLIDE (DIRECTION MODE)
S802	1-554-303-21	SWITCH, KEY BOARD (HIGH SPEED)
S803	1-554-303-21	SWITCH, KEY BOARD (NORMAL SPEED)
S805	1-554-303-21	SWITCH, KEY BOARD (AUTO PAUSE)
S806	1-554-303-21	SWITCH, KEY BOARD (DECK A: ◀◀)
S807	1-554-303-21	SWITCH, KEY BOARD (DECK A: ▶▶)
S808	1-554-303-21	SWITCH, KEY BOARD (DECK A: ■)
S809	1-554-303-21	SWITCH, KEY BOARD (DECK A PAUSE)
S810	1-554-303-21	SWITCH, KEY BOARD (DECK A: ▶)
S811	1-554-303-21	SWITCH, KEY BOARD (DECK A: ◀)
S812	1-554-303-21	SWITCH, KEY BOARD (DECK B: ◀◀)
S813	1-554-303-21	SWITCH, KEY BOARD (DECK B: ▶▶)
S814	1-554-303-21	SWITCH, KEY BOARD (DECK B REC)
S815	1-554-303-21	SWITCH, KEY BOARD (DECK B: ■)
S816	1-554-303-21	SWITCH, KEY BOARD (DECK B PAUSE)
S817	1-554-303-21	SWITCH, KEY BOARD (DECK B: ▶)
S818	1-554-303-21	SWITCH, KEY BOARD (DECK B: ◀)
S819	1-554-303-21	SWITCH, KEY BOARD (DECK B REC MUTE)
S821	1-554-303-21	SWITCH, KEY BOARD (DECK A/B)
S822	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S823	1-554-303-21	SWITCH, KEY BOARD (RESET)
T81B	1-433-337-11	TRANSFORMER, BIAS OSCILLATION
TP1	*1-564-336-00	PIN, CONNECTOR 2P
X801	1-577-358-21	VIBRATOR, CERAMIC 4MHz
X802	1-577-360-11	VIBRATOR, CERAMIC 6MHz



# ST-V701L

## SERVICE MANUAL

*AEP Model  
UK Model*



### SPECIFICATIONS

#### Tuner

System FM stereo, FM/AM Superheterodyne tuner

#### FM tuner section



Tuning range 87.5 to 108 MHz  
Antenna terminals 75 ohms unbalanced  
Intermediate frequency 10.7 MHz

#### MW/LW tuner section

	MW	LW
Tuning range	522 to 1,611 kHz (Italian model) 531 to 1,602 kHz (AEP, UK, West Germany model)	144 to 288 kHz (Italian model) 153 to 281 kHz (AEP, UK, West Germany model)
Antenna	AM loop antenna, External antenna terminal	
Intermediate frequency	450 kHz	

Dimensions Approx. 355 × 82 × 320 mm (w/h/d)  
(14 × 3 1/4 × 12 5/8 inches)  
Incl. projecting parts and controls  
Weight Approx. 1.9 kg (4 lb 3 oz)

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

FM STEREO/FM-AM TUNER  
**SONY**®

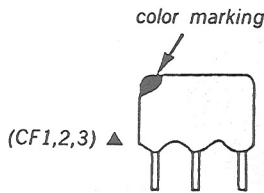




SECTION 1  
SERVICING NOTES

Note on Ceramic Filter (CF1,2,3) ▲ Replacement.

This set employs three ceramic filters (CF1,2,3) ▲ which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by \* D613, \* D614 is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.



○ : Mounted  
× : not Mounted

Ceramic filter		Mount		FM intermediate frequency (MHz)
Color mark	Center frequency (MHz)	* D613	* D614	
White	10.750	×	○	10.750
Red	10.700	×	×	10.700
Black	10.650	○	×	10.650

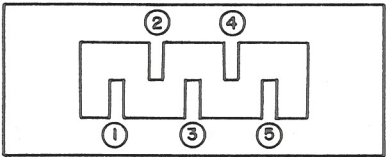
FM intermediate frequency is determined by the three types as shown above, Ceramic filters of same center frequency,i.e., of same color coding should be used for CF1, CF2, and CF3.

When replacing the ceramic filters, perform the FM Discriminator Adjustment.

- ▲ : AEP, UK Model : CF1, 2  
WG, IT Model : CF1, 2, 3

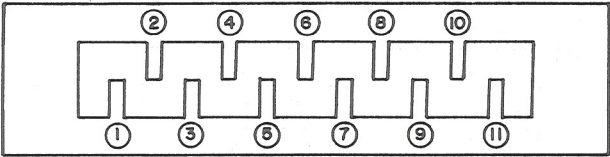
Signal of System Control Connector

CNJ702  
SYSTEM CONTROL 1



1	L-CH OUT
2	NC
3	R-CH OUT
4	GND
5	NC

CNJ701  
SYSTEM CONTROL 2



1	NC	7	VF
2	NC	8	AC
3	GND	9	AC
4	REMOTE	10	NC
5	VF	11	NC
6	VG(-24V)		

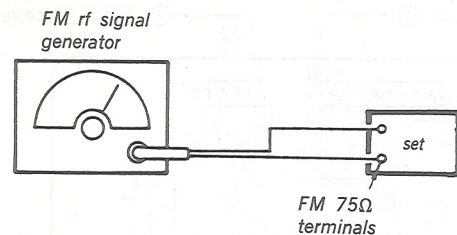


## SECTION 2 ELECTRICAL ADJUSTMENTS

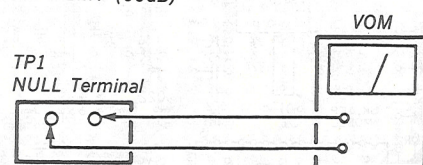
### FM SECTION

#### FM DISCRIMINATOR ADJUSTMENT

##### Setting:



Carrier frequency : 98MHz  
Modulation : 1kHz, 40kHz deviation (100%)  
Output level : 1mV (60dB)



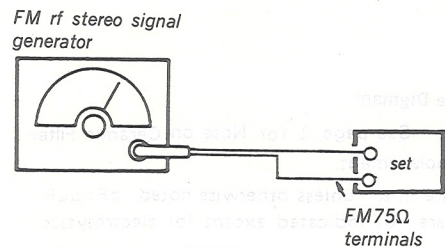
##### Procedure :

1. Tune the set to 98MHz.
2. Adjust T21 for 0V reading on the VOM.

Note: FM tuning level adjustment should be made after FM discriminator alignment.

#### FM TUNING LEVEL ADJUSTMENT

##### Setting :



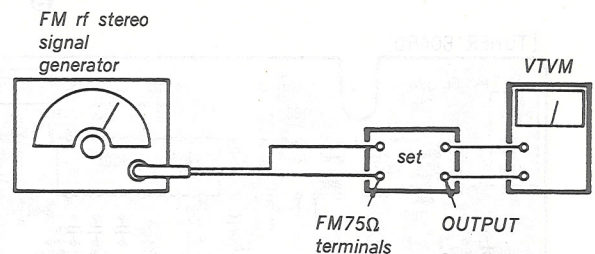
Carrier frequency : 98MHz  
Modulation : 1kHz, 40kHz deviation (100%)  
Output level : 17.8μV (25dB)

##### Procedure :

1. Tune the set to 98MHz.
2. Adjust RV24 so that the TUNED LED goes on.

#### FM STEREO SEPARATION ADJUSTMENT

##### Procedure :



Carrier frequency : 98MHz  
Output level : 1mV (60dB)  
Modulation :  
Audio 400Hz : 16.25kHz deviation  
Sub channel 38kHz : 16.25kHz deviation  
Pilot signal 19kHz : 7.5kHz deviation

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV21 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV21 for minimum reading.

L-CH Stereo separation : Ⓐ-Ⓑ

R-CH Stereo separation : Ⓒ-Ⓓ

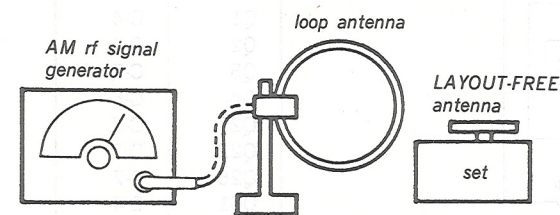
The separations of both channels should be equal.

### MW/LW SECTION

#### AM TUNING LEVEL ADJUSTMENT

BAND select switch : LW

##### Setting :



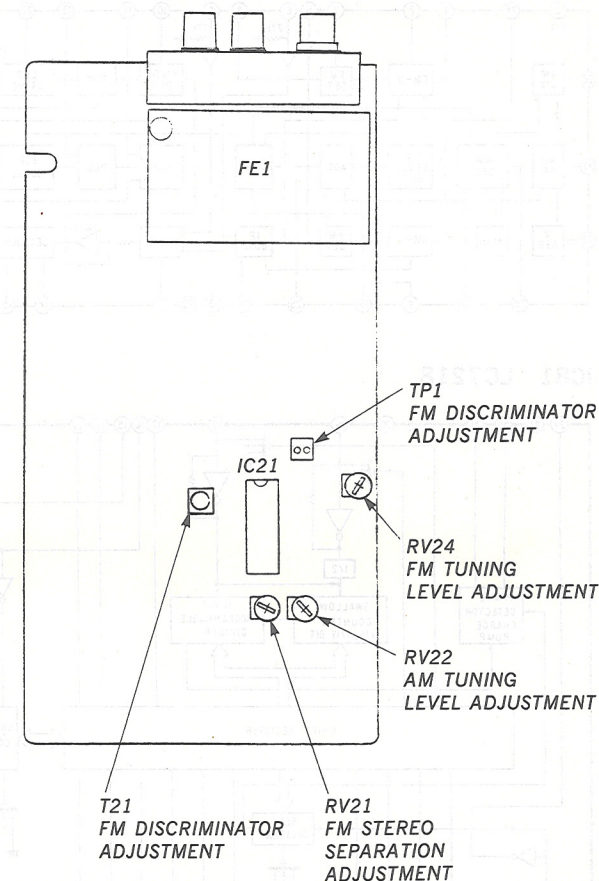
Carrier frequency : 216kHz  
Modulation : 400Hz, 30% modulation

##### Procedure :

1. Set loop antenna so that the LAYOUT-FREE antenna input level becomes 2.5mV/m (68dB).
2. Tune the set to 216kHz.
3. Adjust the RV22 so that the TUNED LED goes on.

#### Adjustment Location :

—tuner board—



## SECTION 3 DIAGRAMS

### 3-1. SEMICONDUCTOR LEAD LAYOUTS

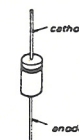
DTC114ES  
2SA1317  
2SA1348  
2SC2669  
2SC3330



2SC3113



US1060M  
10E2N



2SK246GR3



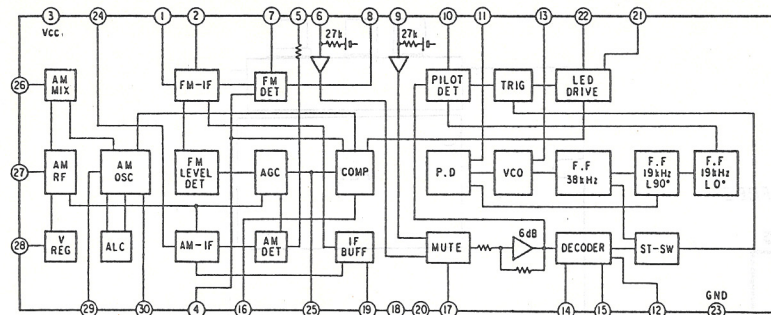
2SC2785



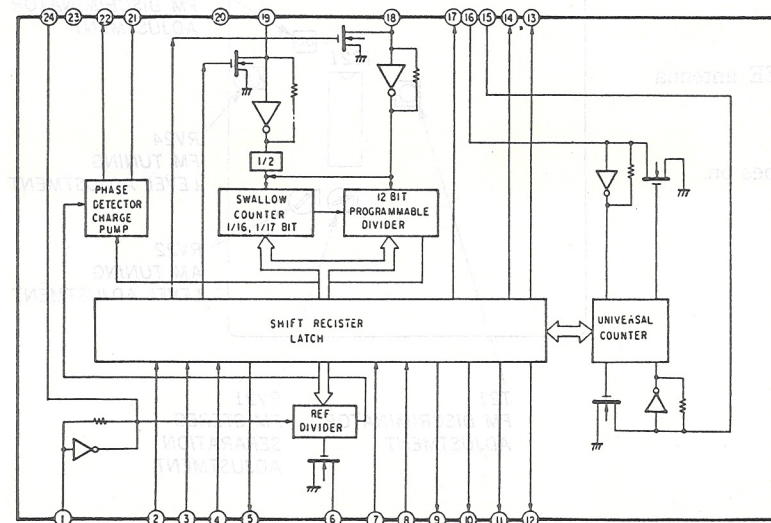


### 3-2. IC BLOCK DIAGRAMS

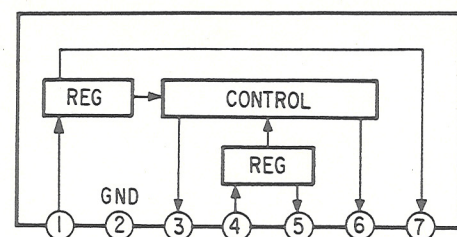
#### IC21 LA1851N



#### IC81 LC7218



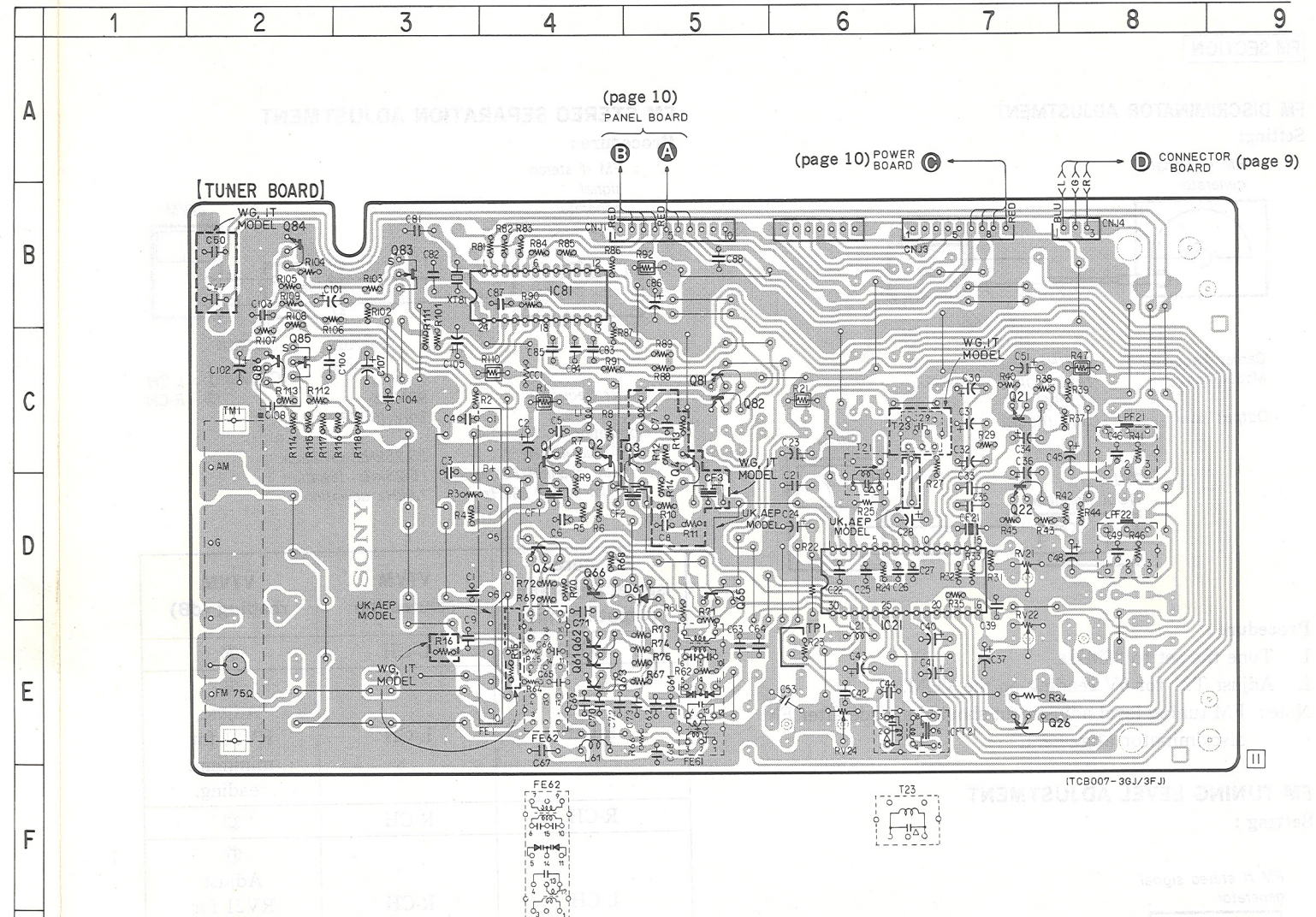
#### IC701 LA5667



### 3-3. TUNER SECTION PRINTED WIRING BOARD

#### • Semiconductor Location

Ref. No.	Location
D61	D-5
IC21	D-6
IC81	B-4
Q1	C-4
Q2	C-4
Q3	C-5
Q4	C-5
Q21	C-7
Q22	D-7
Q26	E-7
Q61	E-4
Q62	E-4
Q63	E-4
Q64	D-4
Q65	D-5
Q66	D-4
Q81	C-5
Q82	C-5
Q83	B-3
Q84	B-2
Q85	C-2
Q86	C-2



#### • Note on Printed Wiring Board

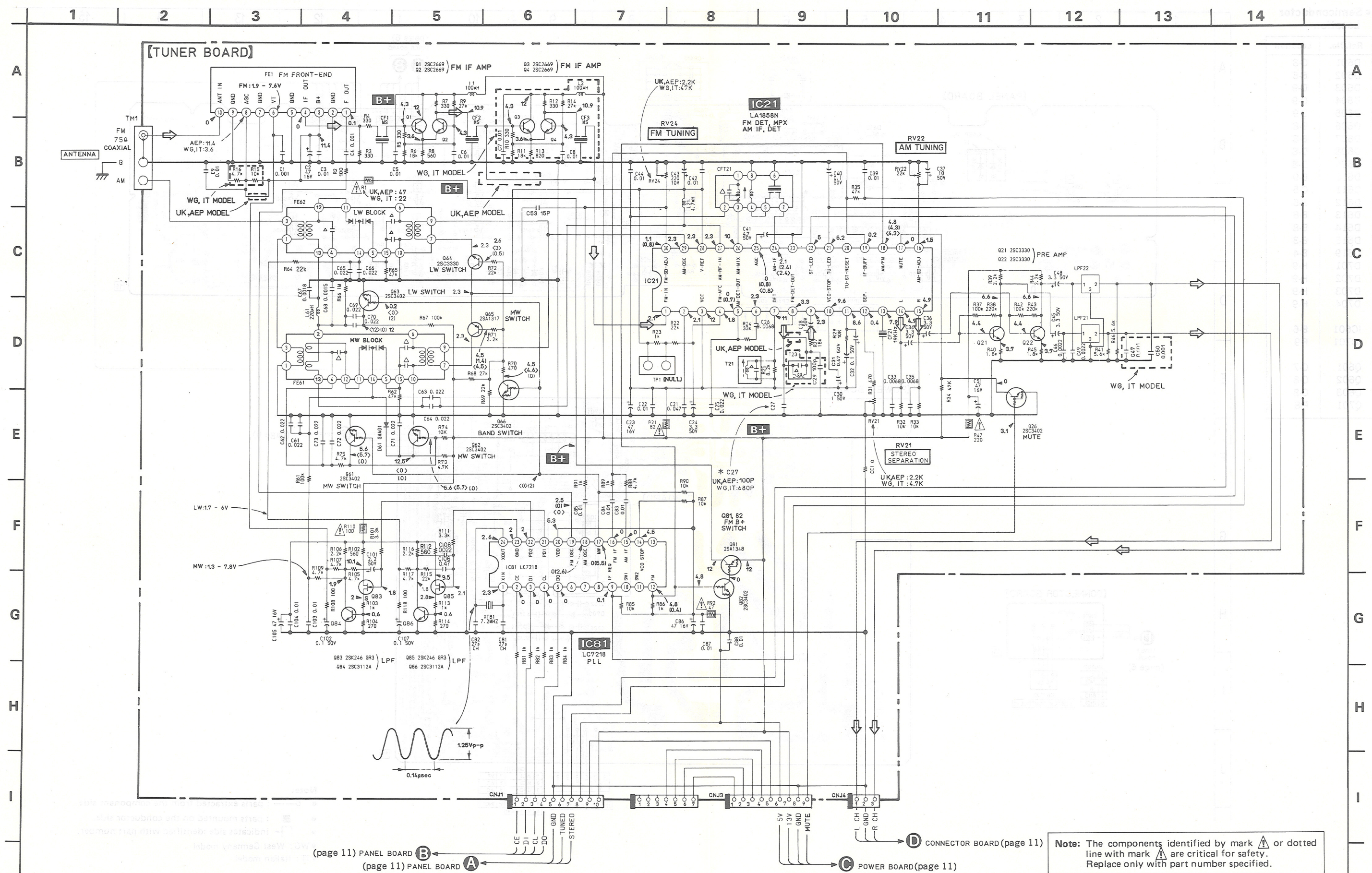
- : parts extracted from the component side.
- : parts mounted on the conductor side.
- : indicates side identified with part number.
- WG: West Germany model
- IT: Italian model

#### • Note on Schematic Digram

- \*D613, \*D614 : See page 2 for Note on Ceramic Filter (CF1, 2, 3) ▲ Replacement.
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- B+ : B+ Line
- B- : B- Line
- : adjustment for repair.
- Power voltage is supply from TA-818.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  - no mark : FM
  - ( ) : AM
  - < > : LW
- Voltages are taken with a VOM (Input impedance  $10\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇒ : FM
- WG: West Germany model
- IT: Italian model



### 3-4. TUNER SECTION SCHEMATIC DIAGRAM

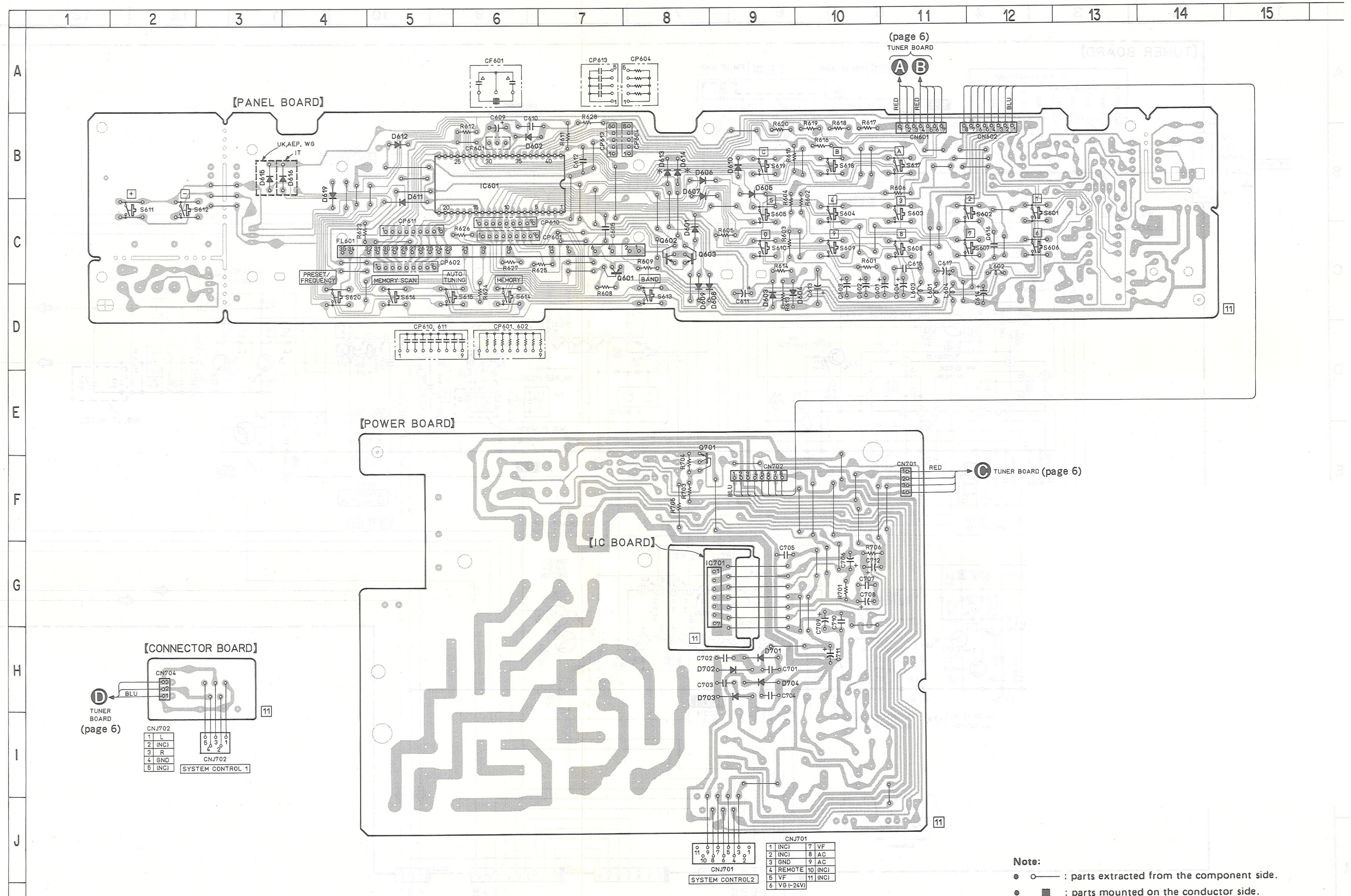




### 3-5. CONTROL AND POWER SUPPLY SECTION PRINTED WIRING BOARDS

- **Semiconductor Location**

Ref. No.	Location
D601	C-8
D602	B-6
D603	D-9
D604	D-9
D605	B-9
D606	B-8
D607	B-8
D608	D-8
D609	D-8
D610	B-9
D611	C-5
D612	B-5
D613	B-8
D614	B-8
D615	B-3
D619	B-4
D701	H-9
D702	H-9
D703	H-9
D704	H-9
IC601	B-6
IC701	F-9
Q601	C-7
Q602	C-8
Q603	C-8
Q701	F-8

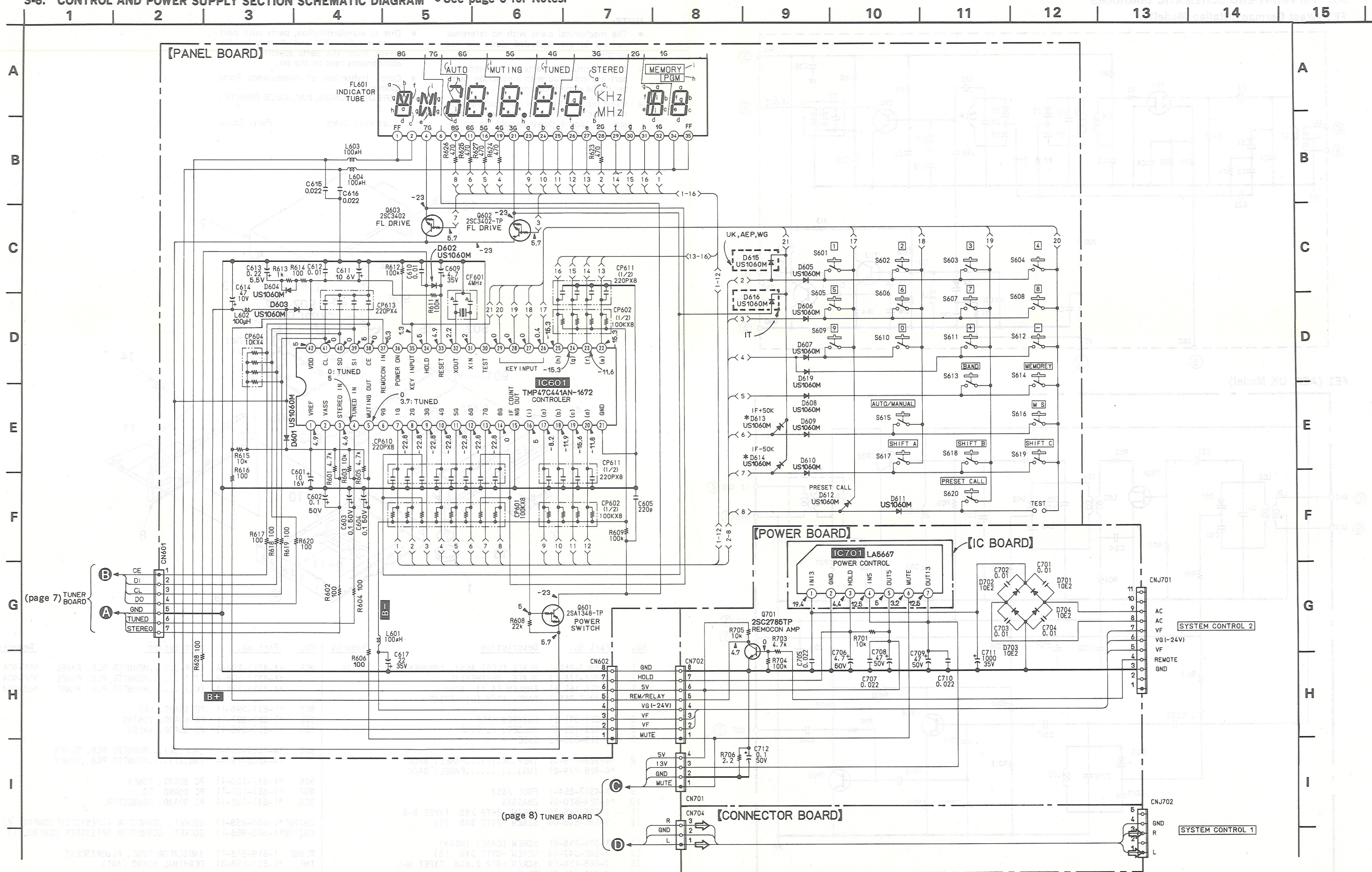


**Note:**

- ○ : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- □ → indicates side identified with part number.
- WG: West Germany model
- IT: Italian model



## 3-6. CONTROL AND POWER SUPPLY SECTION SCHEMATIC DIAGRAM • See page 6 for Notes.









## SECTION 5 ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**MF:  $\mu$ F, PF:  $\mu$ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

**COILS**

- MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**In each case, U:  $\mu$ , for example:UA....:  $\mu$ A...., UPA....:  $\mu$ PA....,UPC....:  $\mu$ PC, UPD....:  $\mu$ PD...

The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

- WG: West Germany model
- IT: Italian model

Ref.No.	Part No.	Description				
901	*A-4333-204-A	(AEP,UK)...MOUNTED PCB, PANEL				
	*A-4333-206-A	(IT).....MOUNTED PCB, PANEL				
	*A-4333-211-A	(WG)....MOUNTED PCB, PANEL				
902	*1-631-099-11	PC BOARD, LED				
903	*1-631-097-11	PC BOARD, TUNING				
904	*1-631-098-11	PC BOARD, VR/SW				
905	*A-4303-181-A	(AEP,UK)...MOUNTED PCB, TUNER				
	*A-4303-182-A	(WG,IT)....MOUNTED PCB, TUNER				
906	*1-631-100-11	PC BOARD, POWER				
907	*1-631-101-11	PC BOARD, IC				
908	*1-631-102-11	PC BOARD, CONNECTOR				
C1	1-162-294-31	CERAMIC CHIP 0.001MF	20%	25V		
C2	1-124-477-11	ELECT 47MF	20%	16V		
C3	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C4	1-162-294-31	CERAMIC CHIP 0.001MF	20%	25V		
C5	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C6	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C7	1-163-059-00	(WG,IT).... CERAMIC MELF 0.01MF	20%	16V		
C8	1-163-059-00	(WG,IT).... CERAMIC MELF 0.01MF	20%	16V		
C9	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C21	1-101-006-00	CERAMIC 0.047MF	20%	50V		
C22	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C23	1-124-477-11	ELECT 47MF	20%	16V		
C24	1-123-382-00	ELECT 3.3MF	20%	50V		
C25	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C26	1-162-527-11	CERAMIC CHIP 0.0068MF	20%	12V		
C27	1-162-521-11	(WG,IT).... CERAMIC CHIP 680PF	20%	50V		
C27	1-162-516-11	(AEP,UK).... CERAMIC CHIP 100PF	10%	50V		
C28	1-124-499-11	ELECT 1.0MF	20%	50V		
C29	1-162-516-11	CERAMIC CHIP 100PF	10%	50V		
C30	1-124-499-11	ELECT 1.0MF	20%	50V		
C31	1-124-902-00	ELECT 0.47MF	20%	50V		
C32	1-124-463-00	ELECT 0.1MF	20%	50V		
C33	1-130-481-00	PE TEREPHTHALATE 0.0068MF	5%	50V		
C34	1-123-382-00	ELECT 3.3MF	20%	50V		
C35	1-130-481-00	PE TEREPHTHALATE 0.0068MF	5%	50V		
C36	1-123-382-00	ELECT 3.3MF	20%	50V		
C37	1-123-875-11	ELECT 10MF	20%	50V		
C39	1-163-059-00	CERAMIC MELF 0.01MF	20%	50V		
C40	1-124-463-00	ELECT 0.1MF	20%	50V		
C41	1-124-927-11	ELECT 4.7MF	20%	50V		
C42	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C43	1-126-176-11	ELECT 220MF	20%	10V		
C44	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C45	1-123-382-00	ELECT 3.3MF	20%	50V		
C46	1-162-375-00	CERAMIC CHIP 0.0022MF	20%	25V		
C47	1-162-294-31	(WG,IT).... CERAMIC CHIP 0.001MF	20%	25V		
C48	1-123-382-00	ELECT 3.3MF	20%	50V		
C49	1-162-375-00	CERAMIC CHIP 0.0022MF	20%	25V		
C50	1-162-294-31	(WG,IT).... CERAMIC CHIP 0.001MF	20%	25V		
C51	1-124-477-11	ELECT 47MF	20%	16V		
C53	1-102-951-00	CERAMIC 15PF	5%	50V		
C61	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C62	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C63	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C64	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C65	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C66	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C67	1-102-120-00	CERAMIC 0.0018MF	10%	50V		
C68	1-162-523-11	CERAMIC CHIP 0.0015MF	20%	25V		
C69	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C70	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C71	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C72	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C73	1-163-063-00	CERAMIC MELF 0.022MF		25V		
C81	1-102-961-00	CERAMIC 27PF	5%	50V		
C82	1-102-961-00	CERAMIC 27PF	5%	50V		
C83	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C84	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C85	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C86	1-124-477-11	ELECT 47MF	20%	16V		
C87	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C88	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C101	1-124-925-11	ELECT 2.2MF	20%	50V		
C102	1-124-463-00	ELECT 0.1MF	20%	50V		
C103	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C104	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V		
C105	1-124-477-11	ELECT 47MF	20%	16V		
C106	1-136-173-00	METALIZED FILM 0.47MF	5%	50V		
C107	1-124-463-00	ELECT 0.1MF	20%	50V		
C108	1-101-005-00	CERAMIC 0.022MF		50V		
C601	1-126-157-11	ELECT 10MF	20%	16V		
C602	1-124-463-00	ELECT 0.1MF	20%	50V		
C603	1-124-463-00	ELECT 0.1MF	20%	50V		
C604	1-124-463-00	ELECT 0.1MF	20%	50V		
C605	1-162-286-31	CERAMIC 220PF	10%	50V		
C609	1-126-094-11	ELECT 4.7MF	20%	35V		



Ref.No.	Part No.	Description																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</
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Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.



Ref.No.	Part No.	Description			
R5	1-249-329-11	CARBON MELF	330	5%	1/8W
R6	1-249-350-11	CARBON MELF	18K	5%	1/8W
R7	1-249-329-11	CARBON MELF	330	5%	1/8W
R8	1-249-332-11	CARBON MELF	560	5%	1/8W
R9	1-249-352-11	CARBON MELF	27K	5%	1/8W
R10	1-249-329-11	(WG,IT)...CARBON MELF	330	5%	1/8W
R11	1-249-350-11	(WG,IT)...CARBON MELF	18K	5%	1/8W
R12	1-249-329-11	(WG,IT)...CARBON MELF	330	5%	1/8W
R13	1-249-334-11	(WG,IT)...CARBON MELF	820	5%	1/8W
R14	1-249-352-11	(WG,IT)...CARBON MELF	27K	5%	1/8W
R15	1-249-347-11	(WG,IT)...CARBON MELF	10K	5%	1/8W
R16	1-249-343-11	(WG,IT)...CARBON MELF	4.7K	5%	1/8W
R21	△ 1-249-404-00	CARBON	82	5%	1/4W F
R22	1-249-433-11	CARBON	22K	5%	1/4W
R23	1-249-335-11	CARBON MELF	1K	5%	1/8W
R24	1-249-353-11	CARBON MELF	33K	5%	1/8W
R25	1-249-428-11	CARBON	8.2K	5%	1/4W
R27	1-249-350-11	CARBON MELF	18K	5%	1/8W
R29	1-249-347-11	CARBON MELF	10K	5%	1/8W
R31	1-249-331-11	CARBON MELF	470	5%	1/8W
R32	1-249-347-11	CARBON MELF	10K	5%	1/8W
R33	1-249-347-11	CARBON MELF	10K	5%	1/8W
R34	1-249-437-11	CARBON	47K	5%	1/4W
R35	1-249-355-11	CARBON MELF	47K	5%	1/8W
R37	1-249-359-11	CARBON MELF	100K	5%	1/8W
R38	1-249-363-11	CARBON MELF	220K	5%	1/8W
R39	1-249-339-11	CARBON MELF	2.2K	5%	1/8W
R40	1-249-338-11	CARBON MELF	1.8K	5%	1/8W
R41	1-249-344-11	CARBON MELF	5.6K	5%	1/8W
R42	1-249-359-11	CARBON MELF	100K	5%	1/8W
R43	1-249-363-11	CARBON MELF	220K	5%	1/8W
R44	1-249-339-11	CARBON MELF	2.2K	5%	1/8W
R45	1-249-338-11	CARBON MELF	1.8K	5%	1/8W
R46	1-249-344-11	CARBON MELF	5.6K	5%	1/8W
R47	△ 1-249-409-11	CARBON	220	5%	1/4W F
R61	1-249-359-11	CARBON MELF	100K	5%	1/8W
R62	1-249-355-11	CARBON MELF	47K	5%	1/8W
R64	1-249-351-11	CARBON MELF	22K	5%	1/8W
R65	1-249-355-11	CARBON MELF	47K	5%	1/8W
R66	1-215-493-00	CARBON MELF	1M	5%	1/5W
R67	1-249-359-11	CARBON MELF	100K	5%	1/8W
R68	1-249-352-11	CARBON MELF	27K	5%	1/8W
R69	1-249-351-11	CARBON MELF	22K	5%	1/8W
R70	1-249-331-11	CARBON MELF	470	5%	1/8W
R71	1-249-339-11	CARBON MELF	2.2K	5%	1/8W
R72	1-249-351-11	CARBON MELF	22K	5%	1/8W
R73	1-249-343-11	CARBON MELF	4.7K	5%	1/8W
R74	1-249-347-11	CARBON MELF	10K	5%	1/8W
R75	1-249-343-11	CARBON MELF	4.7K	5%	1/8W
R81	1-249-335-11	CARBON MELF	1K	5%	1/8W
R82	1-249-335-11	CARBON MELF	1K	5%	1/8W
R83	1-249-335-11	CARBON MELF	1K	5%	1/8W
R84	1-249-335-11	CARBON MELF	1K	5%	1/8W
R85	1-249-347-11	CARBON MELF	10K	5%	1/8W
R86	1-249-335-11	CARBON MELF	1K	5%	1/8W
R87	1-249-347-11	CARBON MELF	10K	5%	1/8W
R88	1-249-343-11	CARBON MELF	4.7K	5%	1/8W

Ref.No.	Part No.	Description			
R89	1-249-335-11	CARBON MELF	1K	5%	1/8W
R90	1-249-347-11	CARBON MELF	10K	5%	1/8W
R91	1-249-335-11	CARBON MELF	1K	5%	1/8W
R92	△ 1-249-401-11	CARBON	47	5%	1/4W F
R101	1-249-341-11	CARBON MELF	3.3K	5%	1/8W
R102	1-249-332-11	CARBON MELF	560	5%	1/8W
R103	1-249-335-11	CARBON MELF	1K	5%	1/8W
R104	1-249-328-11	CARBON MELF	270	5%	1/8W
R105	1-249-343-11	CARBON MELF	4.7K	5%	1/8W
R106	1-249-339-11	CARBON MELF	2.2K	5%	1/8W
R107	1-249-343-11	CARBON MELF	4.7K	5%	1/8W
R108	1-249-323-11	CARBON MELF	100	5%	1/8W
R109	1-249-343-11	CARBON MELF	4.7K	5%	1/8W
R111	1-249-341-11	CARBON MELF	3.3K	5%	1/8W
R112	1-249-332-11	CARBON MELF	560	5%	1/8W
R113	1-249-335-11	CARBON MELF	1K	5%	1/8W
R114	1-249-328-11	CARBON MELF	270	5%	1/8W
R115	1-249-351-11	CARBON MELF	22K	5%	1/8W
R116	1-249-339-11	CARBON MELF	2.2K	5%	1/8W
R117	1-249-343-11	CARBON MELF	4.7K	5%	1/8W
R118	1-249-323-11	CARBON MELF	100	5%	1/8W
R601	1-249-425-11	CARBON	4.7K	5%	1/4W
R602	1-249-405-11	CARBON	100	5%	1/4W
R603	1-249-429-11	CARBON	10K	5%	1/4W
R604	1-249-405-11	CARBON	100	5%	1/4W
R605	1-249-425-11	CARBON	4.7K	5%	1/4W
R606	1-249-405-11	CARBON	100	5%	1/4W
R608	1-249-433-11	CARBON	22K	5%	1/4W
R609	1-249-441-11	CARBON	100K	5%	1/4W
R611	1-249-441-11	CARBON	100K	5%	1/4W
R612	1-249-441-11	CARBON	100K	5%	1/4W
R613	1-249-417-11	CARBON	1K	5%	1/4W
R614	1-249-405-11	CARBON	100	5%	1/4W
R615	1-249-429-11	CARBON	10K	5%	1/4W
R616	1-249-405-11	CARBON	100	5%	1/4W
R617	1-249-405-11	CARBON	100	5%	1/4W
R618	1-249-405-11	CARBON	100	5%	1/4W
R619	1-249-405-11	CARBON	100	5%	1/4W
R620	1-249-405-11	CARBON	100	5%	1/4W
R623	1-249-413-11	CARBON	470	5%	1/4W
R624	1-249-413-11	CARBON	470	5%	1/4W
R625	1-249-413-11	CARBON	470	5%	1/4W
R626	1-249-413-11	CARBON	470	5%	1/4W
R627	1-249-413-11	CARBON	470	5%	1/4W
R628	1-249-405-11	CARBON	100	5%	1/4W
R701	1-249-429-11	CARBON	10K	5%	1/4W
R703	1-249-425-11	CARBON	4.7K	5%	1/4W
R704	1-249-441-11	CARBON	100K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-385-11	CARBON	2.2	5%	1/4W
RV21	1-238-013-11	(AEP,UK)...RES. ADJ. CARBON 2.2K (STEREO SEPARATION)			
RV21	1-238-015-11	(WG,IT)...RES. ADJ. CARBON 4.7K (STEREO SEPARATION)			
RV22	1-238-017-11	RES. ADJ. CARBON 22K (AM TUNING)			

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.



Ref.No.	Part No.	Description
RV24	1-238-013-11	(AEP,UK)...RES, ADJ, CARBON 2.2K (FM TUNING)
RV24	1-238-019-11	(WG,IT)...RES, ADJ, CARBON 47K (FM TUNING)
S601	1-554-303-21	SWITCH, KEY BOARD (1)
S602	1-554-303-21	SWITCH, KEY BOARD (2)
S603	1-554-303-21	SWITCH, KEY BOARD (3)
S604	1-554-303-21	SWITCH, KEY BOARD (4)
S605	1-554-303-21	SWITCH, KEY BOARD (5)
S606	1-554-303-21	SWITCH, KEY BOARD (6)
S607	1-554-303-21	SWITCH, KEY BOARD (7)
S608	1-554-303-21	SWITCH, KEY BOARD (8)
S609	1-554-303-21	SWITCH, KEY BOARD (9)
S610	1-554-303-21	SWITCH, KEY BOARD (0)
S611	1-554-303-21	SWITCH, KEY BOARD (TUNING +)
S612	1-554-303-21	SWITCH, KEY BOARD (TUNING -)
S613	1-554-303-21	SWITCH, KEY BOARD (BAND)
S614	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S615	1-554-303-21	SWITCH, KEY BOARD (AUTO TUNING)
S616	1-554-303-21	SWITCH, KEY BOARD (MEMORY SCAN)
S617	1-554-303-21	SWITCH, KEY BOARD (SHIFT A)
S618	1-554-303-21	SWITCH, KEY BOARD (SHIFT B)
S619	1-554-303-21	SWITCH, KEY BOARD (SHIFT C)
S620	1-554-303-21	SWITCH, KEY BOARD (PRESET/FREQUENCY)
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR
T23	1-236-465-11	(WG,IT)....ENCAPSULATED COMPONENT
TM1	*1-537-138-31	TERMINAL BOARD (ANT)
TP1	*1-560-060-00	PIN, CONNECTOR 2P
XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)



# CDP-M77

## SERVICE MANUAL

*AEP Model  
UK Model  
E Model*



Model Name Using Similar Mechanism	CDP-M95
CD Mechanism Name	CDM9-5
Base Unit Name	BU-5C

### SPECIFICATION

#### Compact disc player

Frequency response	2 Hz – 20 kHz $\pm$ 0.5 dB
Signal to noise ratio	More than 100 dB
Dynamic range	More than 95 dB
Harmonic distortion	Less than 0.003 %
Channel separation	More than 98 dB

#### Outputs

LINE OUT (FIXED) (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
DIGITAL OUT (OPTICAL) (optical output connector)	Wave length 660 nm Output level – 18 dBm
HEADPHONES (stereo phone jack)	Output level max. 15 mW Load impedance 32 ohms

#### General

Power requirements	AEP model 220 V AC (or 240 V AC adjustable by Sony personnel), 50/60 Hz UK model 240 V AC (or 220 V AC adjustable by Sony personnel), 50/60 Hz E model 110 – 120 or 220 – 240 V AC adjustable, 50/60 Hz
Power consumption	12 W
Dimensions (approx., including projections)	355 $\times$ 93 $\times$ 310 mm (w/h/d) (14 $\times$ 3 $\frac{3}{4}$ $\times$ 12 $\frac{1}{4}$ inches)
Weight (approx.)	3.5 kg (7 lbs 11 oz)

#### Supplied accessories

Audio cord	1 (2 phono plugs – 2 phono plugs)
Remote commander	1
Sony SUM-3 (NS) batteries	2

— Continued on next page —



COMPACT DISC PLAYER  
**SONY**<sup>®</sup>



Remote commander (RM-D270)

Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions	Approx. 67 × 20 × 175 mm (w/h/d) (2 <sup>3</sup> / <sub>4</sub> × 1 <sup>3</sup> / <sub>16</sub> × 7 inches)
Weight	Approx. 135 g (4 oz) Including batteries

MODEL IDENTIFICATION  
— Specification Labels —

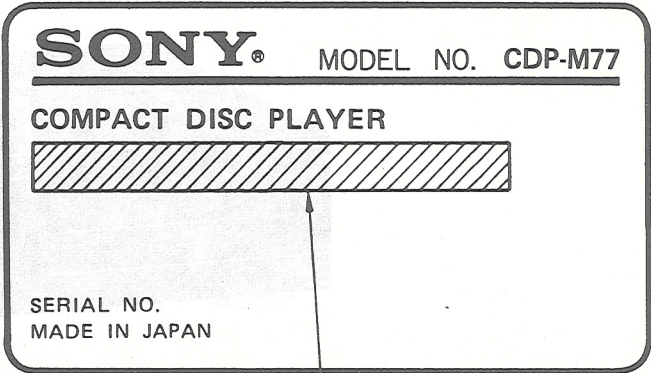




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AEP model: AC: 220 V ~ 50/60 Hz 12 W  
UK model: AC: 240 V ~ 50/60 Hz 12 W  
E model: AC: 110–120, 220–240 V ~ 50/60 Hz 12 W

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.



## SECTION 1

### SERVICING NOTES

#### PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

##### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

##### 1. Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output: max. 44.6  $\mu$ W\*

\* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

#### BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

##### ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

##### 1. Laser-dioe data

- Materiale: GaAlAs
- Bølgelængde: 780 nm
- Udstråling: Kontinuerlig
- Laseroutput: Max. 0,4 mW\*

\* Målt i 1,6 mm afstand fra overfladen af objektiv-linsen på den optiske pick-up enhed.

- Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laserdioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

#### LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

##### 1. Advarsel Mærkning

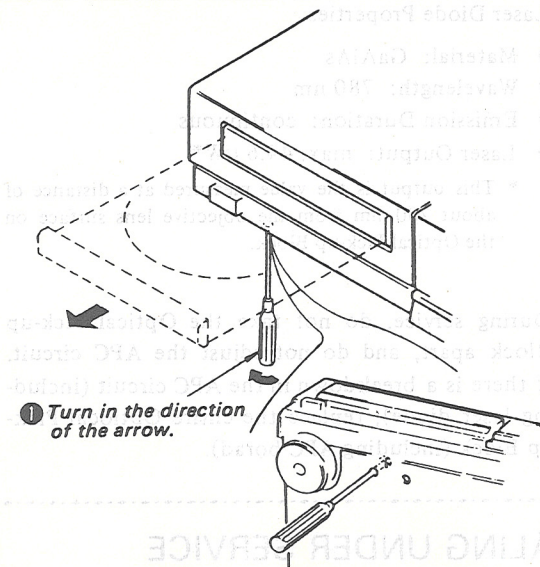
CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.  
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSETTELSE FOR STRÅLING.

4 885 843 02

**VAROITUS:** Laite sisältää, laserdiodin, joka lähettää (näkyvätöntä) silmille vaarallista lasersäteilyä.

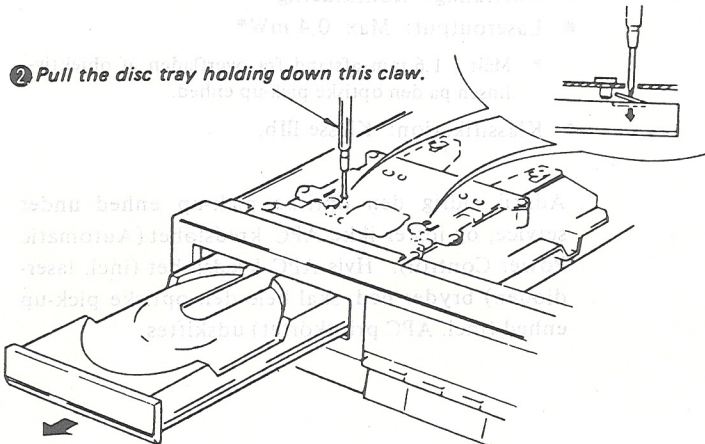


## HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



**Caution:** When you work, keep the set horizontal.

## DISC TRAY REMOVAL



## NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

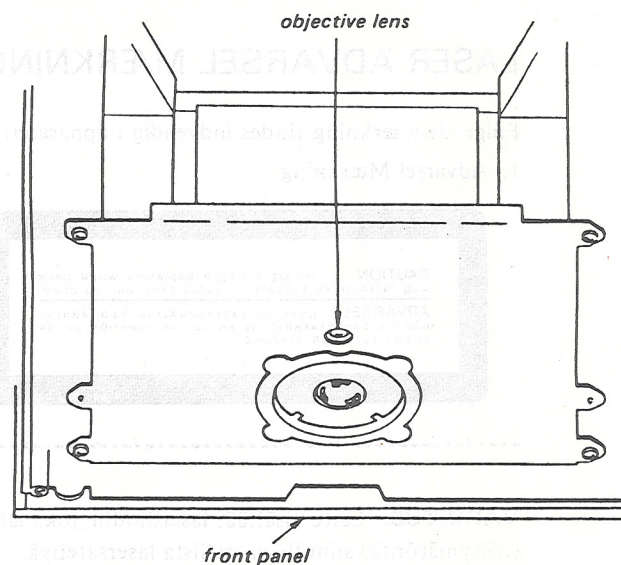
The flexible board is easily damaged and should be handled with care.

## NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

## LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objecting lens.



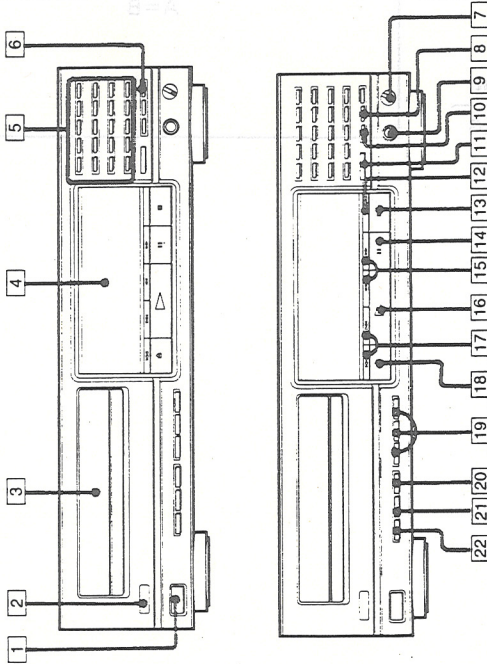
- ① Confirm that laser beam is spread.
- ② Up and down motion of the objective lens. (3 times)



SECTION 2  
GENERAL

Location of Controls

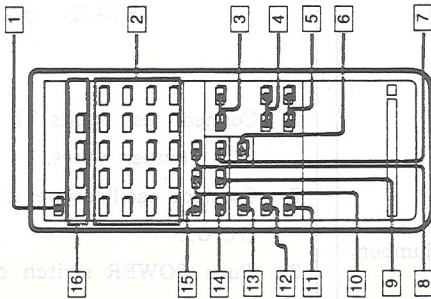
Front Panel



- 1 POWER switch
- 2 Remote sensor
- 3 Disc tray
- 4 Display window
- 5 Numeric buttons
- 6 CLEAR (program clear) button
- 7 HEADPHONE LEVEL control
- 8 CHECK (program check)
- 9 HEADPHONE jack
- 10 FADER (FADE IN/FADE OUT) button
- 11 EDIT/TIME FADE button
- 12 (stop) button
- 13 (pause) button
- 14 (manual search) buttons
- 15 (play) button
- 16 AMS buttons
- 17 AMS buttons
- 18 OPEN/CLOSE button
- 19 PLAY MODE buttons
- PROGRAM button
- SHUFFLE button
- CONTINUE/SINGLE button
- REPEAT button
- 20 REPEAT button
- 21 AUTO SPACE (auto space) button
- 22 TIME button

Remote Commander

RM-D270



- 1 (open/close) button
- 2 Numeric buttons
- 3 AMS buttons
- 4 (manual search) buttons
- 5 SLOW (low speed manual search) buttons
- 6 FADER (FADE IN/FADE OUT) button
- 7 TIME button
- 8 CLEAR (program clear) button
- 9 A repeat button
- 10 CHECK button
- 11 (stop) button
- 12 (pause) button
- 13 (play) button
- 14 CLEAR/REPEAT (A ↔ B repeat clear/repeat) button
- 15 > 20 (over 20) button
- 16 PLAY MODE buttons
- PGM (program) button
- SHUFFLE button
- CONTINUE button
- SINGLE button

\* AMS is an abbreviation of Automatic Music Sensor.



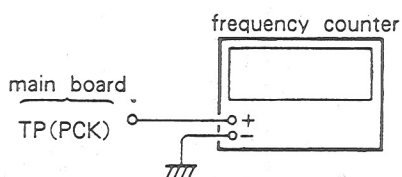
## SECTION 3

### ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10M $\Omega$  impedance.

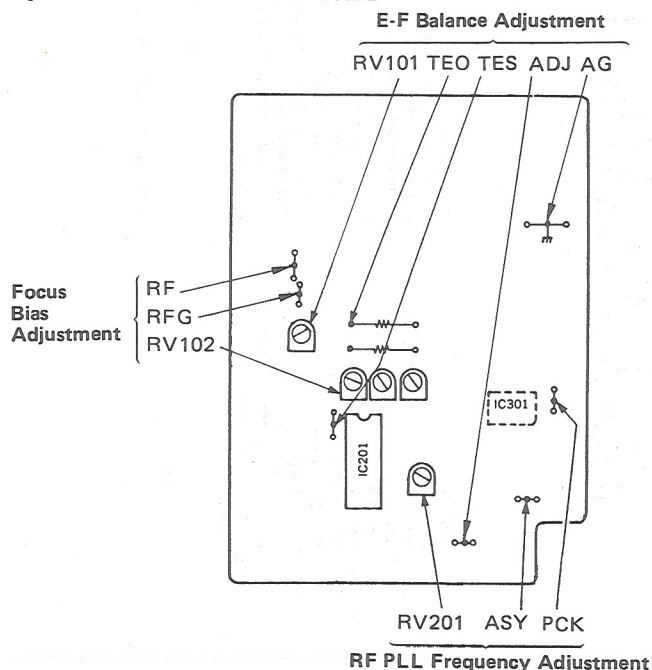
#### RF PLL Frequency Adjustment

##### Procedure :



1. Connect test point TP (ASY) to ground with jumper wire.
2. Turn POWER switch on.
3. Connect the frequency counter to test point TP (PCK).
4. Adjust RV201 so that the reading on frequency counter is 4.3218MHz $\pm$ 30kHz.
5. Remove lead wire connecting TP (ASY) and ground.
6. Put disc (YEDS-18) in and press  $\triangleright$  button.
7. Confirm that the reading on frequency counter is 4.3218MHz.

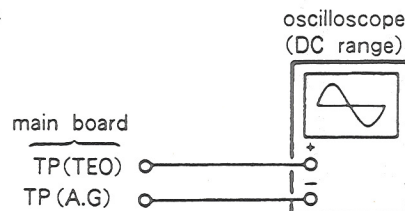
Adjustment Location : main board



#### E-F Balance Adjustment

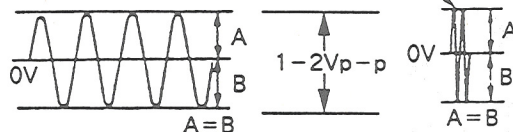
This adjustment should be made when replacing Optical Pick-up Block.

##### Procedure :



1. Connect test points TP (ADJ) and TP (TEI) to ground with jumper wires.
2. Connect oscilloscope to test points TP (TEO) and TP (A. G).
3. Turn POWER switch on.
4. Put disc (YEDS-18) in and playback the 6th selection.
5. Adjust RV101 so that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V.

**Note :** Take sweep time as long as possible to obtain best waveform.



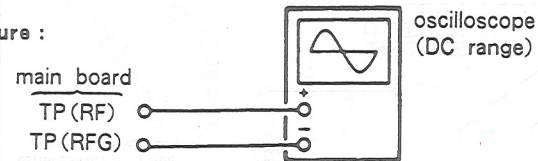


## REFERENCE

### Focus Bias Adjustment

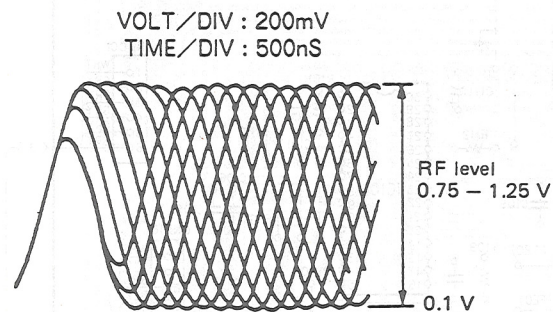
This adjustment should be made when replacing Optical Pick-up Block.

#### Procedure :



1. Connect oscilloscope to test points TP(RF) and TP (RF G).
2. Turn POWER switch on.
3. Put disc (YEDS-18) in and playback the 6th selection.
4. Adjust RV102 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.

#### ● RF Signal Reference Waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

### Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

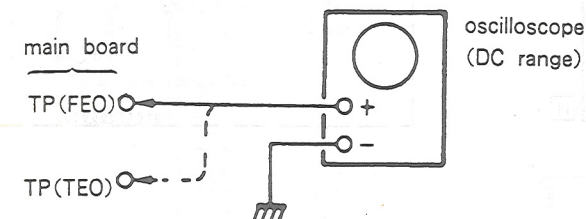
Symptoms	Gain	Focus	Tracking
● The time until music starts becomes longer for STOP → PLAY or automatic selection (M M buttons pressed). (Normally takes about 2 seconds.)		low	low or high
● Music does not start and disc continues to rotate for STOP → PLAY or auto - matic selection (M M buttons pressed.)		—	low
● Disc table opens shortly after STOP → PLAY.		low or high	—
● Sound is interrupted during PLAY. Or time counter display stops progressing.		—	low
● More poise during 2-axis device operation.		high	high

The following is a simple adjustment method.

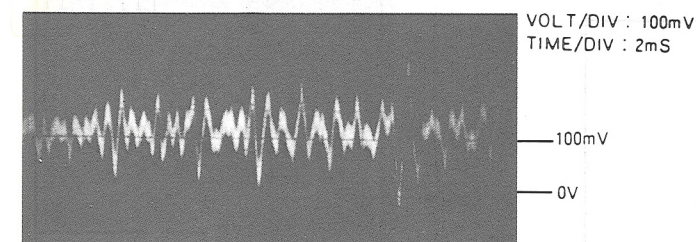
#### —Simple Adjustment—

**Note :** Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

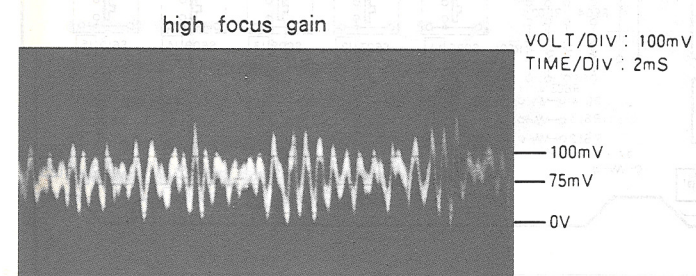
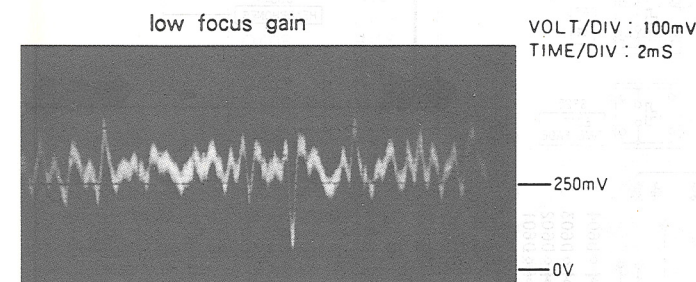
#### Procedure :



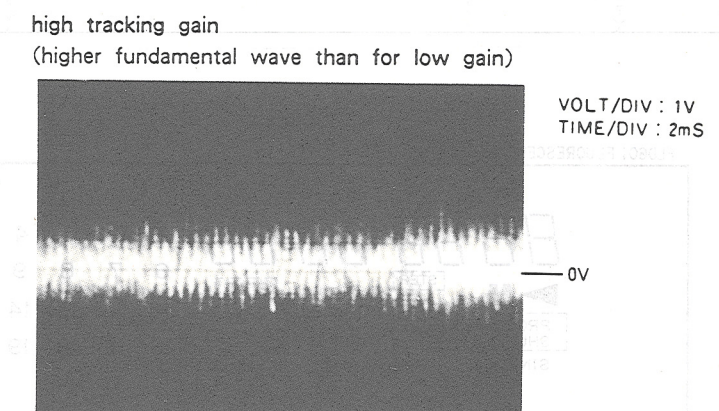
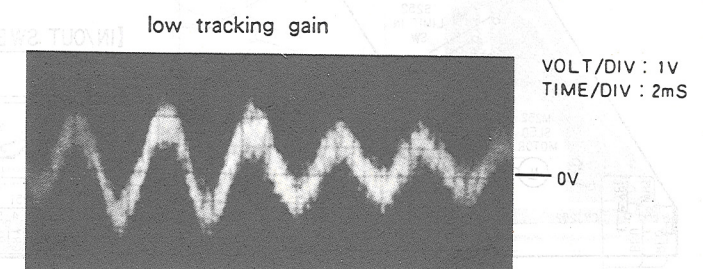
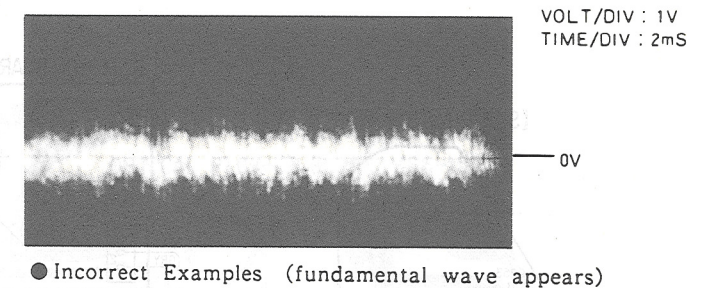
1. Keep the set horizontal.  
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18) playback the 6th selection.
3. Connect oscilloscope to main board TP(FEO).
4. Adjust RV103 so that the waveform is as shown in the figure below. (focus gain adjustment)



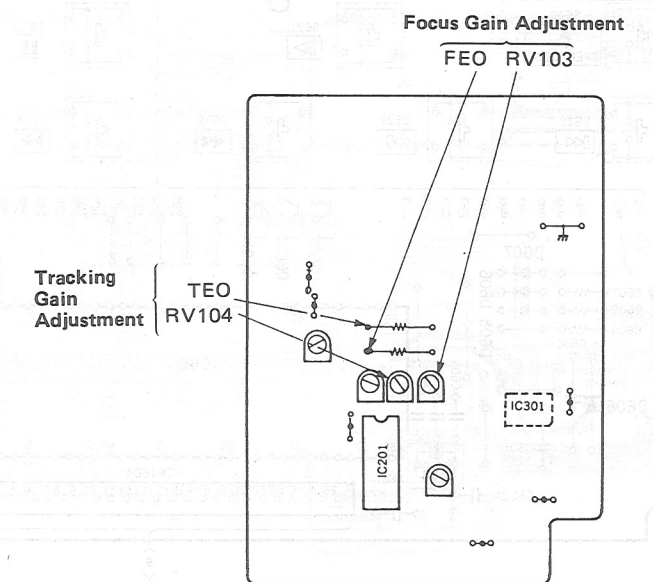
- Inccornt Examples (DC level changes more than on adjusted waveform)



5. Connect oscilloscope to main board TP(TEO).
6. Adjust RV104 so that the waveform is as shown in the figure below. (tracking gain adjustment)



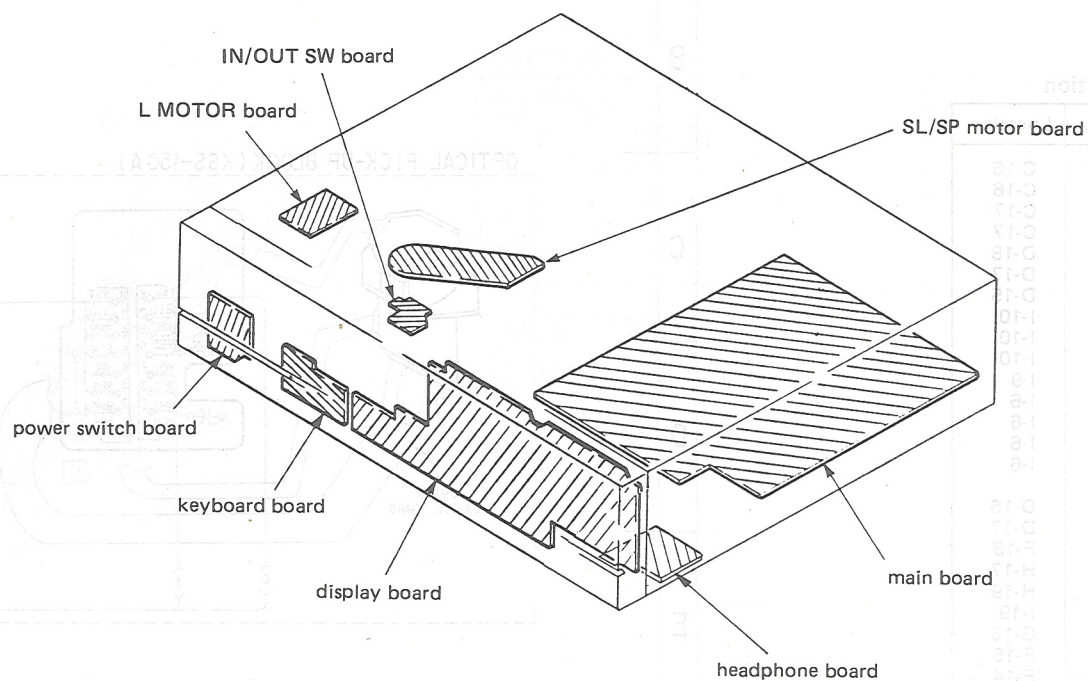
Adjustment Location : main board





## SECTION 4 DIAGRAMS

### 4-1. CIRCUIT BOARDS LOCATION





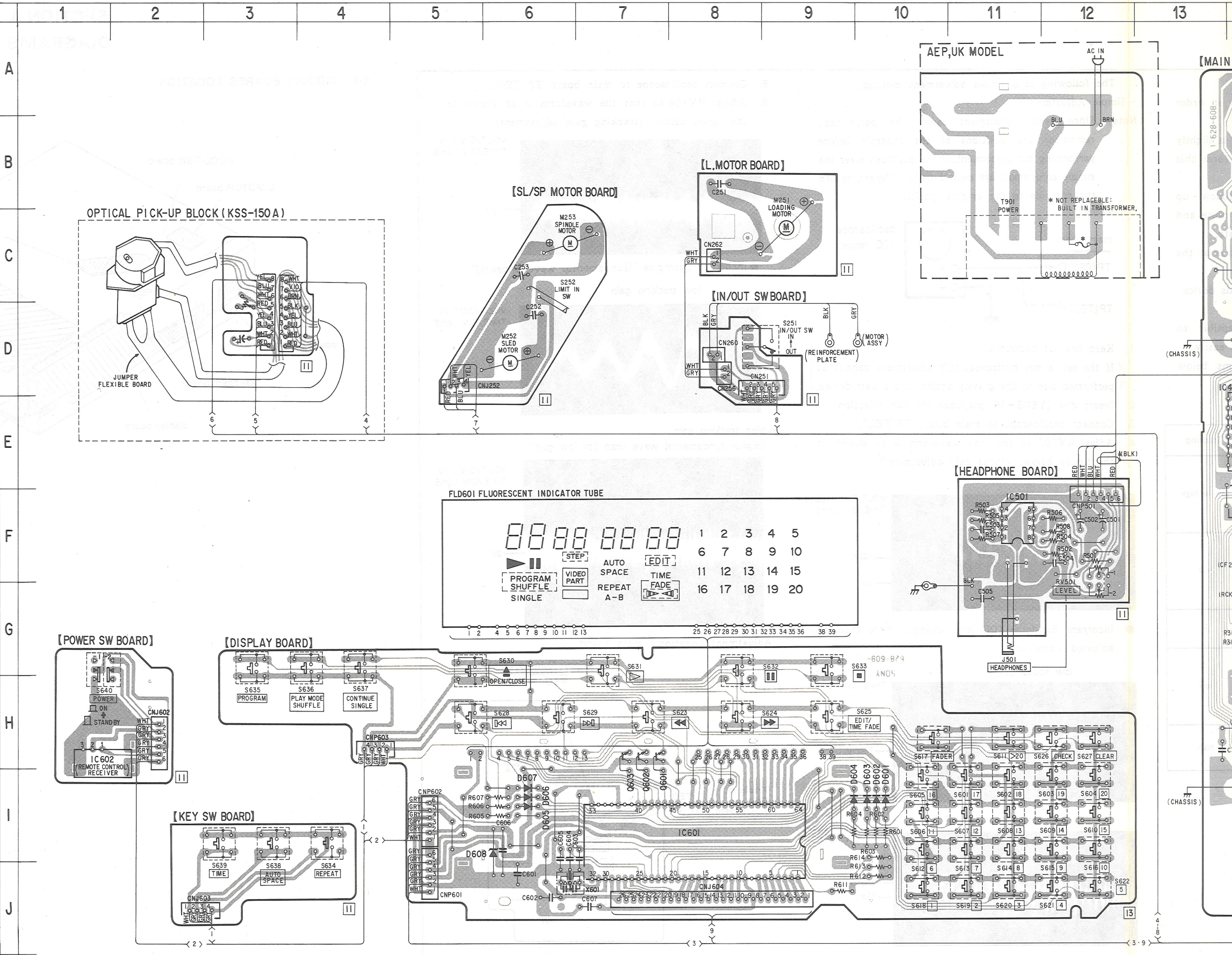
4-2. PRINTED WIRING BOARDS

● See page 22 for Semiconductor Lead Layouts.

- Note:
- — : parts extracted from the component side.
  - — : parts extracted from the conductor side.
  - ■ : parts mounted on the conductor side.

● Semiconductor Location

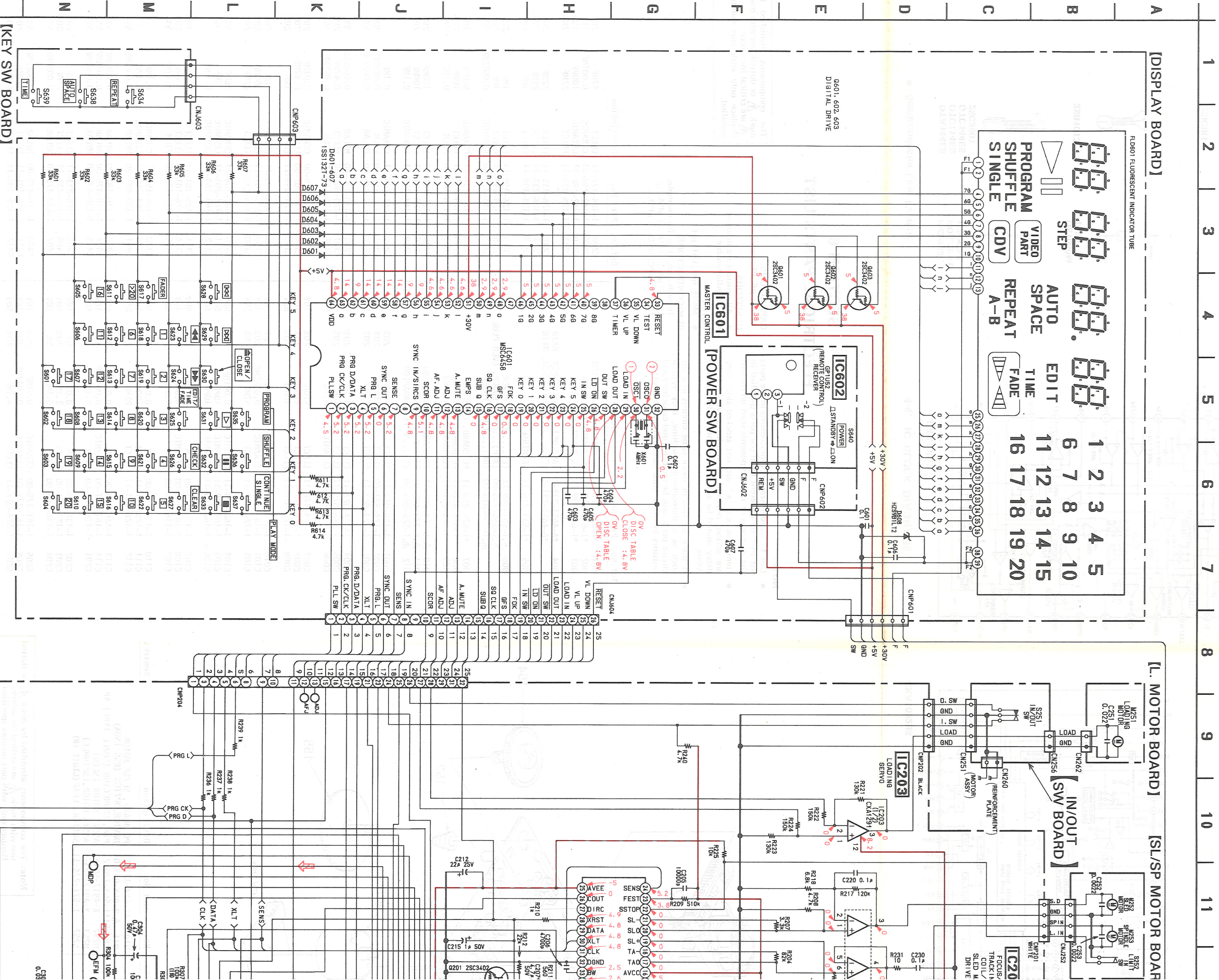
Ref. No.	Location
D001	C-16
D002	C-16
D003	C-17
D004	C-17
D005	D-18
D006	D-17
D401	D-15
D601	I-10
D602	I-10
D603	I-10
D604	I-9
D605	I-6
D606	I-6
D607	I-6
D608	I-6
IC001	D-16
IC002	D-17
IC101	F-18
IC201	H-17
IC202	H-19
IC203	I-19
IC301	G-15
IC302	F-15
IC303	F-14
IC304	A-14
IC305	F-15
IC401	E-14
IC402	E-14
IC403	B-15
IC501	F-11
IC601	I-8
IC602	H-1
Q001	D-17
Q101	G-19
Q201	I-16
Q202	I-16
Q301	G-16
Q401	C-15
Q402	B-14
Q403	C-16
Q404	I-14
Q407	B-15
Q408	B-15
Q601	H-7
Q602	H-7
Q603	H-7





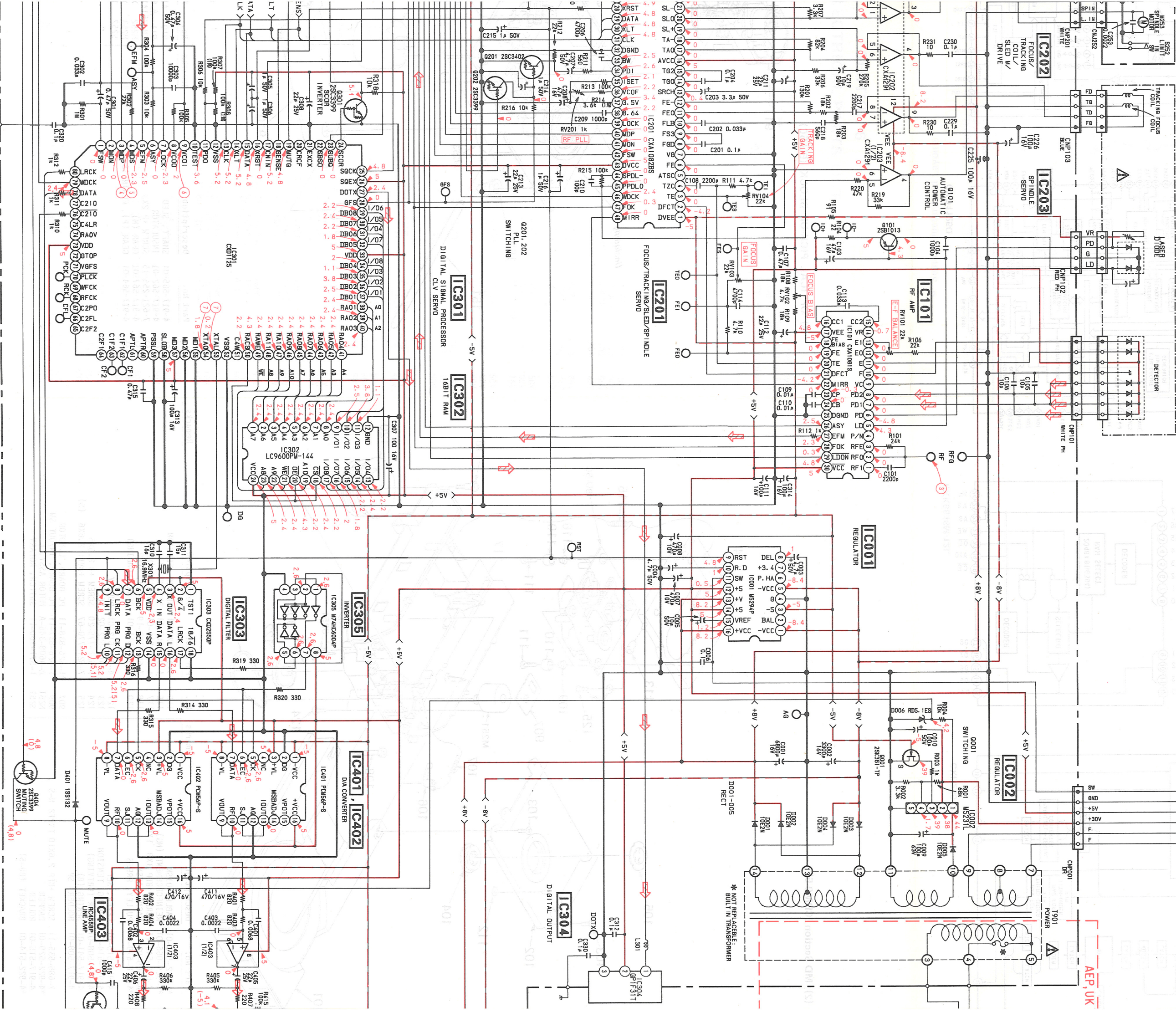




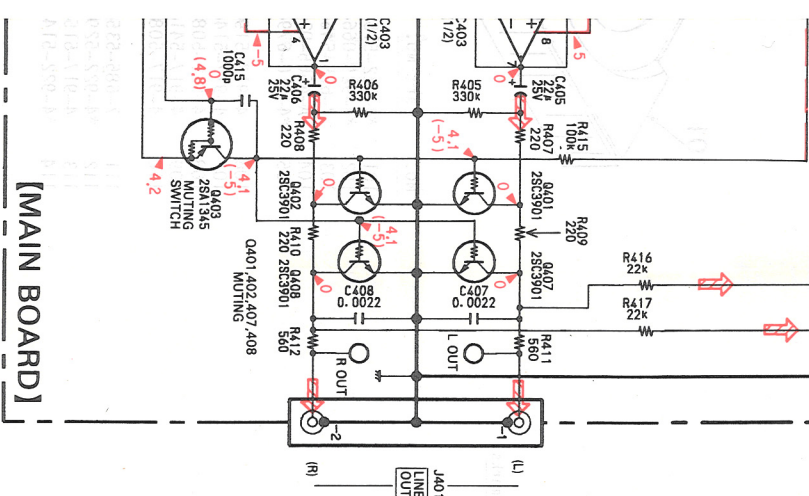
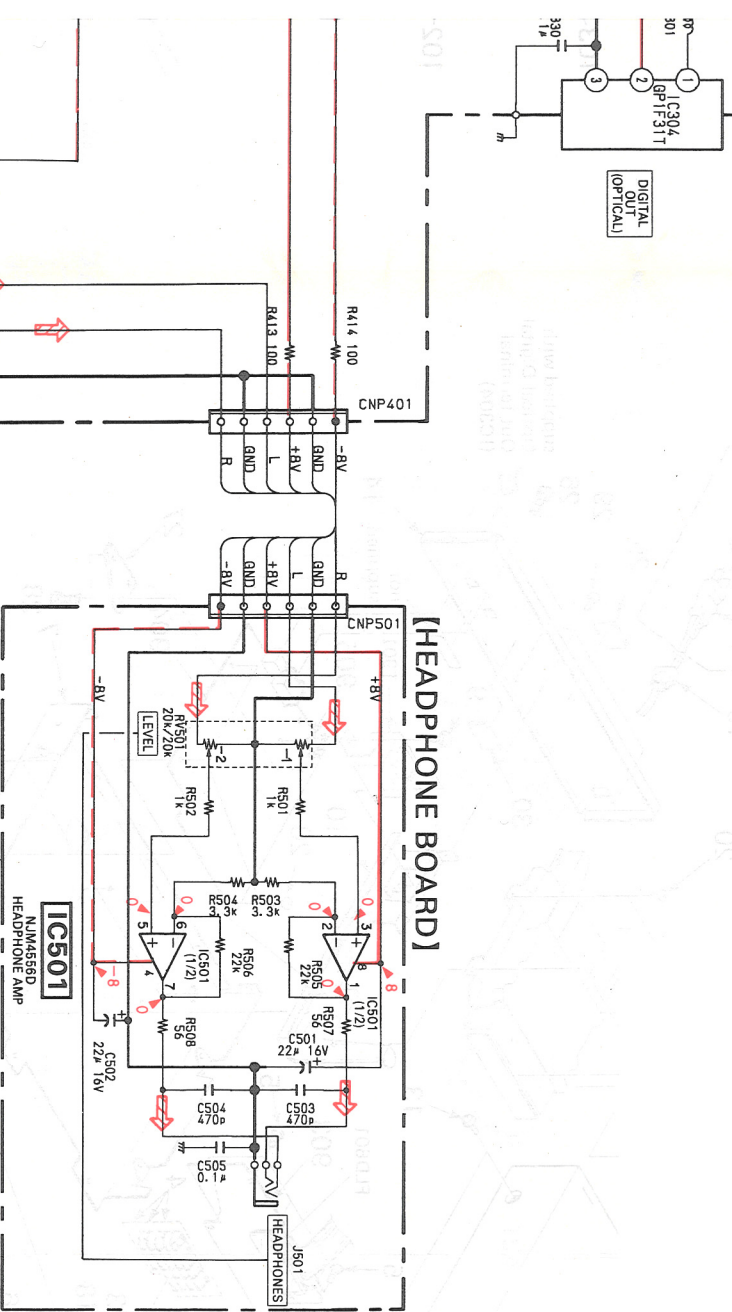
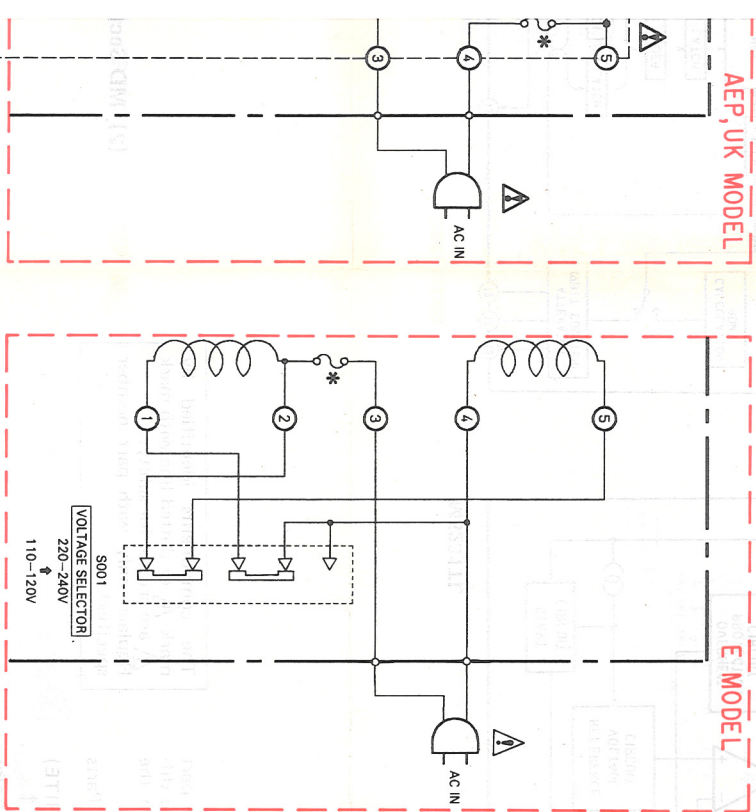




OR BOARD) OPTICAL PICK-UP BLOCK (KSS-150A)



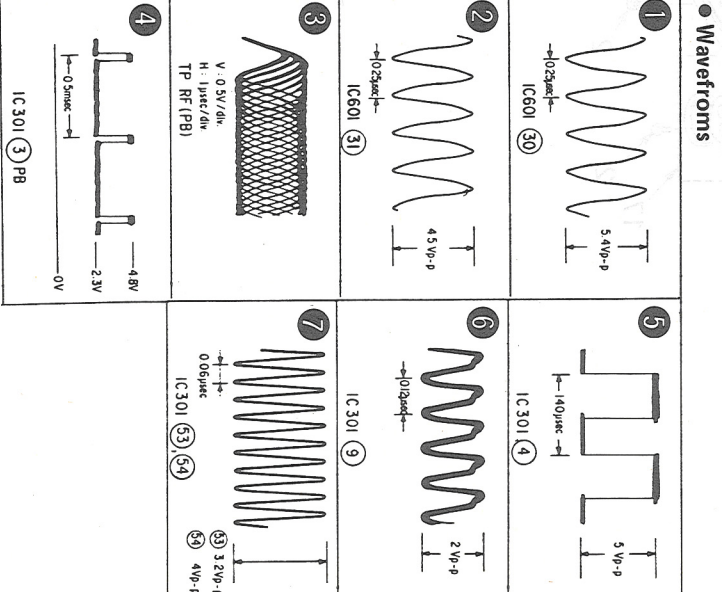




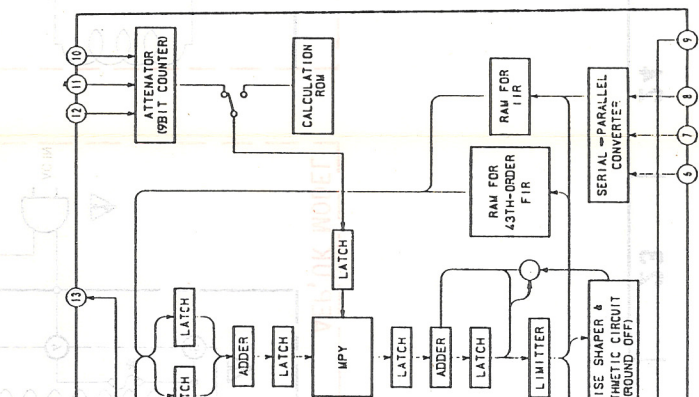
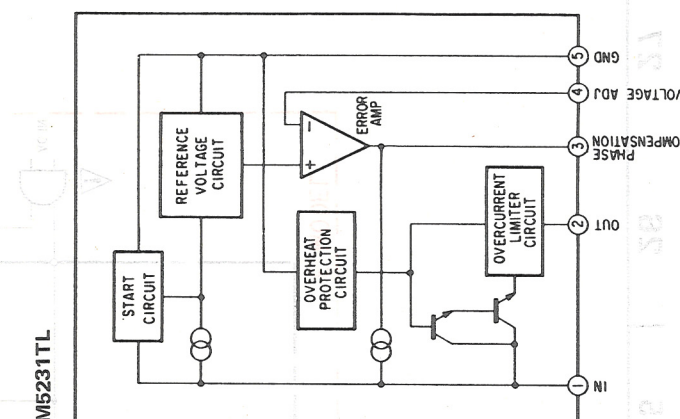
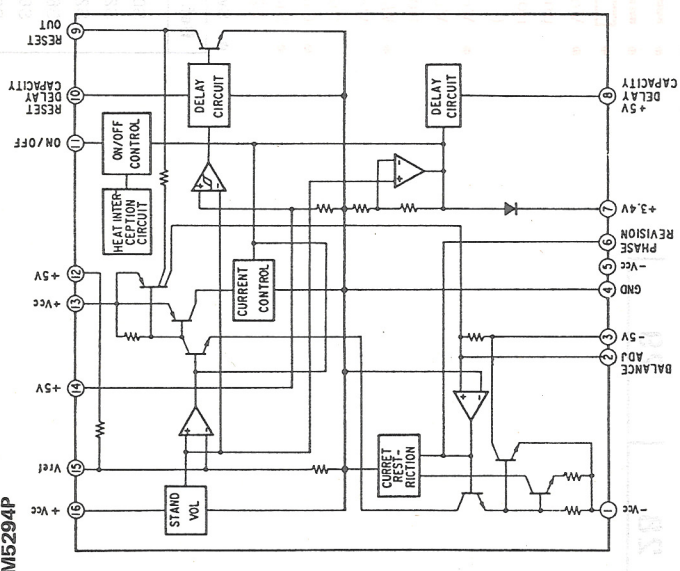
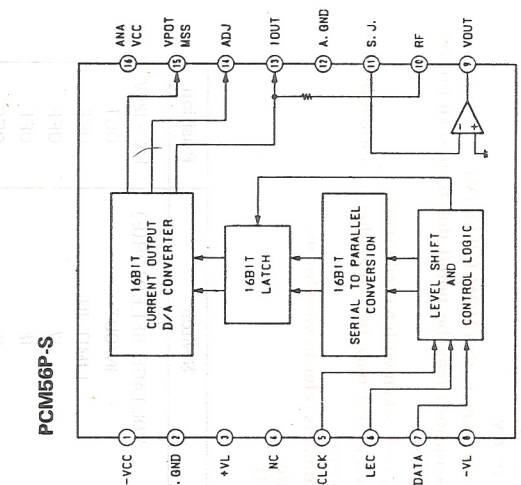
- Note:**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
  - % : indicates tolerance.
  - $\Delta$  : internal component.
  - — : B+ Line
  - — : B- Line
  - — : adjustment for repair.
  - Voltage and waveforms are dc with respect to ground under no-signal conditions.
  - no mark: STOP
  - ( ): PLAY
  - Voltages are taken with a VOM (50 k $\Omega$ /V).
  - Voltage variations may be noted due to normal production tolerances.
  - Waveforms are taken with a oscilloscope.
  - Voltage variations may be noted due to normal production tolerances.
  - Circled numbers refer to waveforms.
  - Signal path.
  - Switch

Ref. No	Switch	Position
S001	VOLTAGE SELECTOR(E)	110-120V
S251	IN/OUT	OUT
S252	LIMIT IN	OFF
S601	17	OFF
S602	18	OFF
S603	19	OFF
S604	20	OFF
S605	16	OFF
S606	11	OFF
S607	12	OFF
S608	13	OFF
S609	14	OFF
S610	15	OFF
S611	>20	OFF
S612	6	OFF
S613	7	OFF
S614	8	OFF
S615	9	OFF
S616	10	OFF
S617	FADER	OFF
S618	1	OFF
S619	2	OFF
S620	3	OFF
S621	4	OFF
S622	5	OFF
S623	OFF	OFF
S624	OFF	OFF
S625	EDIT/TIME FADE	OFF
S626	CHECK	OFF
S627	CLEAR	OFF
S628	KK	OFF
S629	KK	OFF
S630	▲OPEN/CLOSE	OFF
S631	▷	OFF
S632		OFF
S633	■	OFF
S634	REPEAT	OFF
S635	PROGRAM	OFF
S636	SHUFFLE	OFF
S637	CONTINUE SINGLE	OFF
S638	AUTO SPACE	OFF
S639	TIME	OFF
S640	POWER	OFF

**Note:** The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.







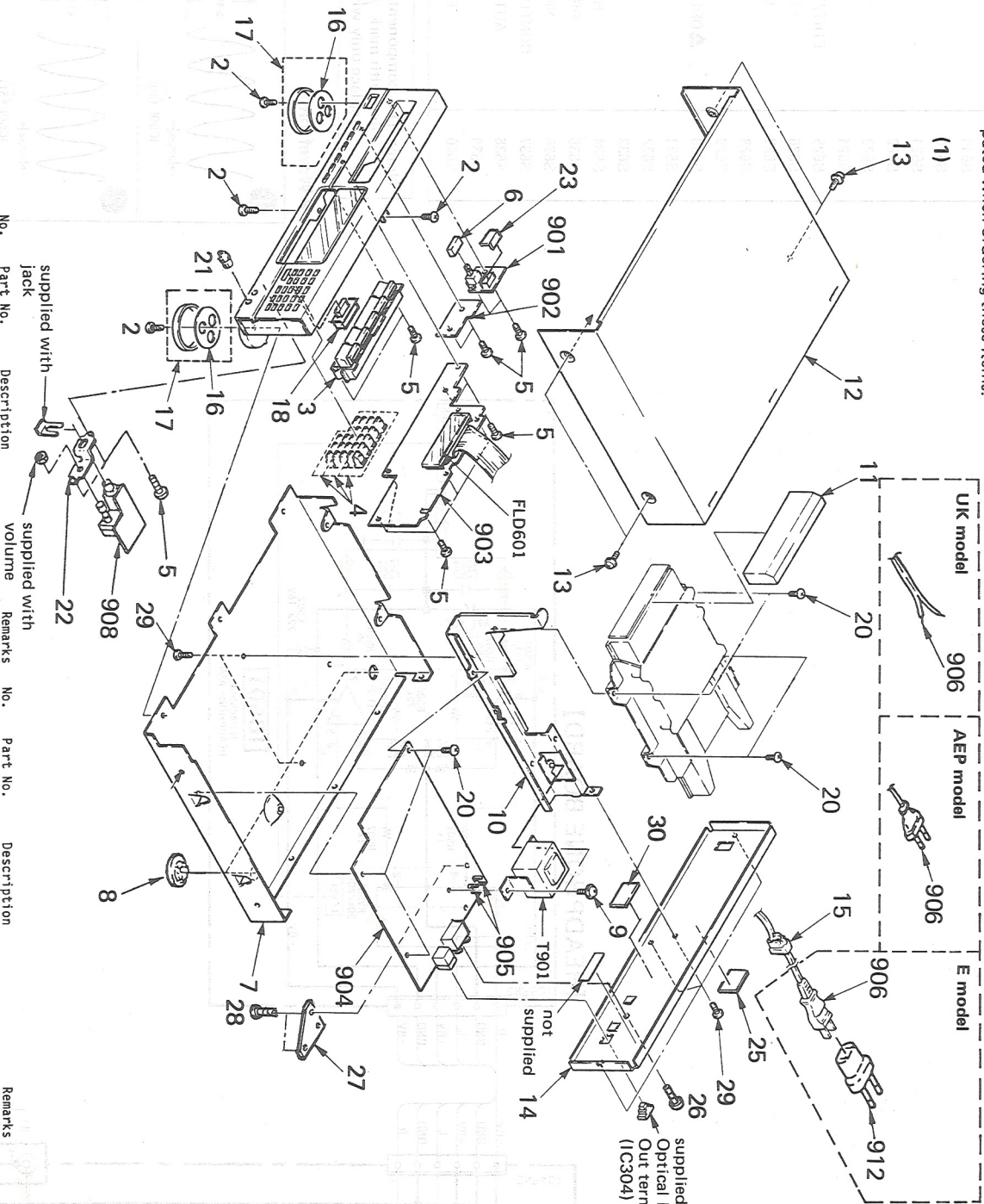
## SECTION 5 EXPLODED VIEWS

- NOTE:**
- The mechanical parts with no reference number in the exploded views are not supplied.
  - The construction parts of an assembled part are indicated with a collation number in the remark column.
  - Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color indication of Appearance Parts  
Example:  
(RED) ... KNOB, BALANCE (WHITE)  
↑  
Cabinet's Color      Parts Color

The components identified by mark **A** or dotted line with mark **A** are critical for safety. Replace only with part number specified.

### (2) MD Secti



No.	Part No.	Description	Remarks
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No.	Part No.	Description	Remarks
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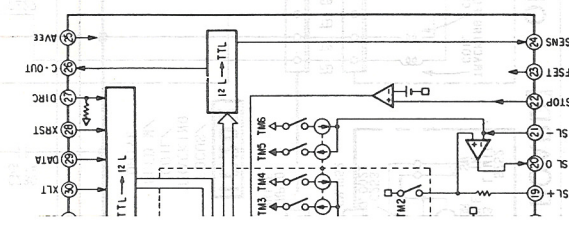
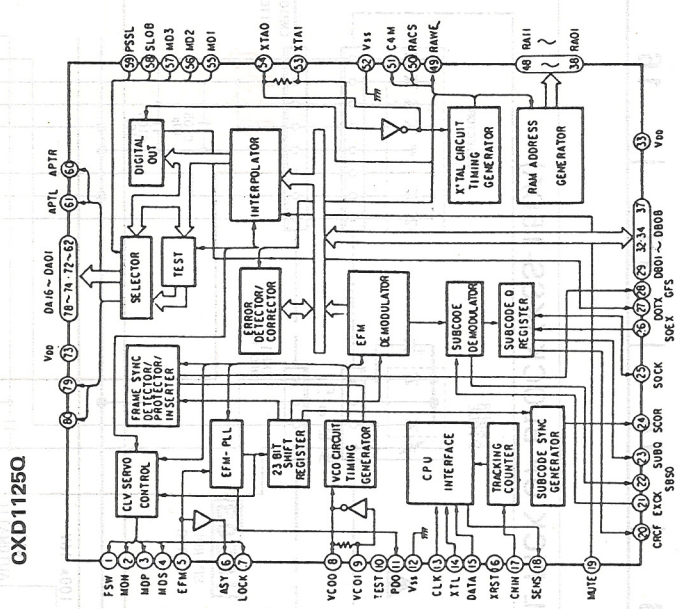
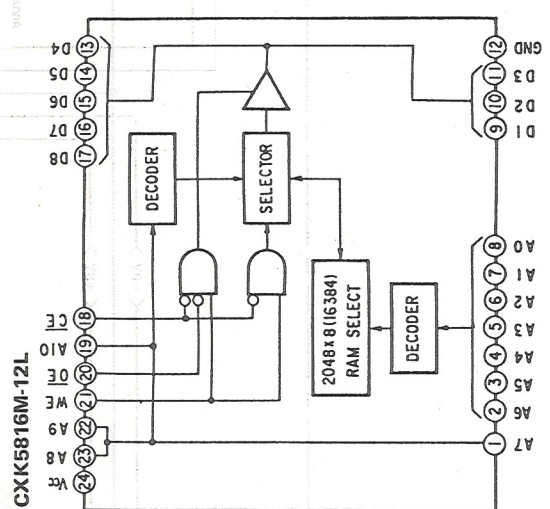
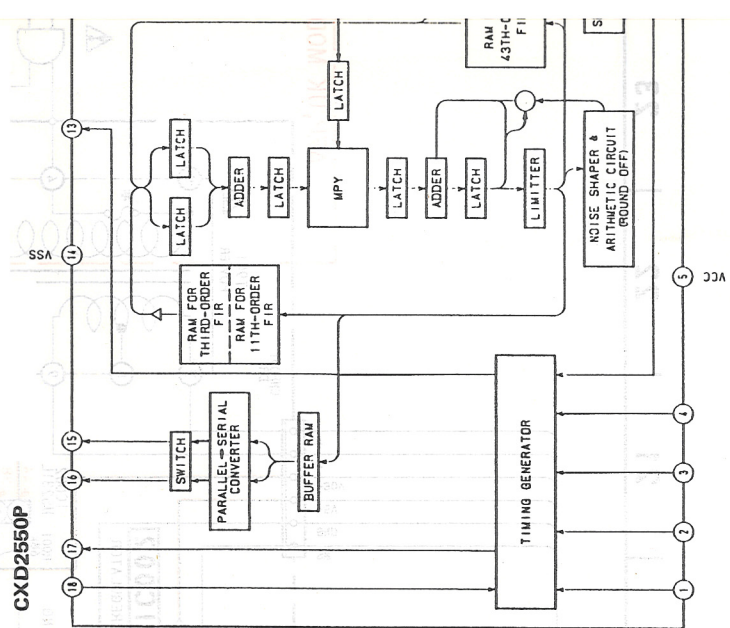
No.	Part No.	Description	Remarks
-----	----------	-------------	---------

1	X-4-922-915-1	PANEL ASSY, FRONT	
2	7-682-547-04	SCREW +BVT 3X6 (S)	
3	X-4-922-916-1	BUTTON (P) ASSY	
4	4-922-986-01	BUTTON (MC)	
5	7-685-134-19	SCREW +RTP 2.6X8 TYPE2 N-S	
6	4-922-993-01	BUTTON (PW)	
7	*4-921-903-51	CHASSIS	
8	X-4-922-001-1	FOOT ASSY	
9	2-383-566-00	SCREW	
10	*4-922-911-01	CHASSIS (R)	
11	4-922-990-11	(AEP, JK)...PANEL (LOADING)	
12	4-922-990-21	(E)...PANEL (LOADING)	
13	4-919-376-02	CASE	
14	3-704-366-01	SCREW (CASE) (R8X8)	
15	*4-922-981-41	(AEP)...PANEL, BACK	
16	*4-922-981-21	(UK)...PANEL, BACK	
17	4-922-981-31	(E)...PANEL, BACK	
18	*3-703-244-00	(AEP, JK)...BUSHING (2104), CORD	
19	*3-703-571-12	(E)...BUSHING (S)(4516), CORD	
20	4-821-906-01	FEET	
21	4-821-918-11	PLATE, ORNAMENTAL	
22	4-922-991-11	BUTTON (ED)	
23	7-682-548-04	SCREW +BVT 3X8 (S)	

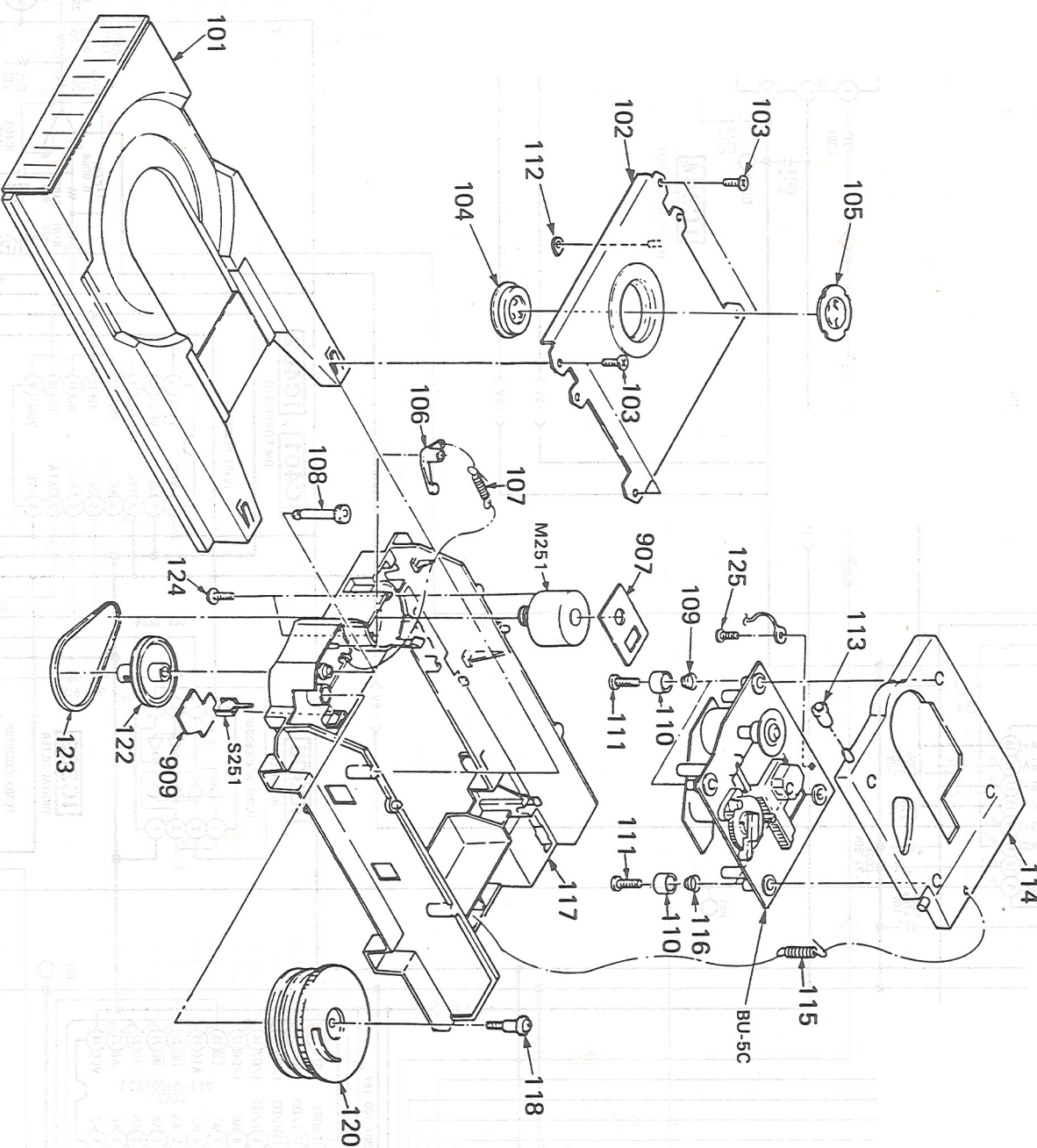
21	4-922-531-01	KNOB (A TYPE), LOV	
22	*4-922-987-01	BRACKET (HP)	
23	*4-927-311-01	COVER (REMOTE CONTR. L)	
24	*4-885-838-00	LABEL, CLASS 1	
25	7-685-647-79	SCREW +BVT 3X10 TYPE2 N-S	
26	4-922-988-01	COVER	
27	4-818-403-21	RIVET, NYLON	
28	7-682-547-09	SCREW +BVT 3X6 (S)	
29	4-922-939-01	(UK)...CUSHION	
30	*1-628-611-11	PC BOARD, POWER SWITCH	
31	*1-628-610-11	PC BOARD, KEY BOARD	
32	*1-628-609-11	PC BOARD, DISPLAY	
33	*A-4651-232-A	(AEP, JK)...MOUNTED PCB, MAIN	
34	*A-4651-233-A	(E)...MOUNTED PCB, MAIN	
35	*1-535-476-11	TERMINAL	
36	*A-1-551-188-XX	(E)...CORD, POWER	
37	*A-1-555-795-00	(AEP)...CORD, POWER, EU10 PLUG	
38	*A-1-556-035-00	(UK)...CORD, POWER	
39	*1-628-612-11	PC BOARD, HEADPHONE	
40	*A-1-526-565-00	(E)...AC PLUG ADAPTOR	
41	*A-1-519-475-11	INDICATOR TUBE, FLUORESCENT	
42	T901 A-1-449-025-11	(AEP, JK)...TRANSFORMER, POWER	
43	T901 A-1-449-026-11	(E)...TRANSFORMER, POWER	

101	*4-922-515-1		
102	*4-929-066-1		
103	7-685-546-1		
104	A-4665-024		
105	*4-918-679-1		
106	4-917-519-1		
107	4-917-514-1		
108	4-922-508-1		
109	4-917-541-1		
110	4-917-508-1		
111	7-685-535-1		
112	*4-922-529-1		
113	4-917-515-1		
114	*4-922-514-1		





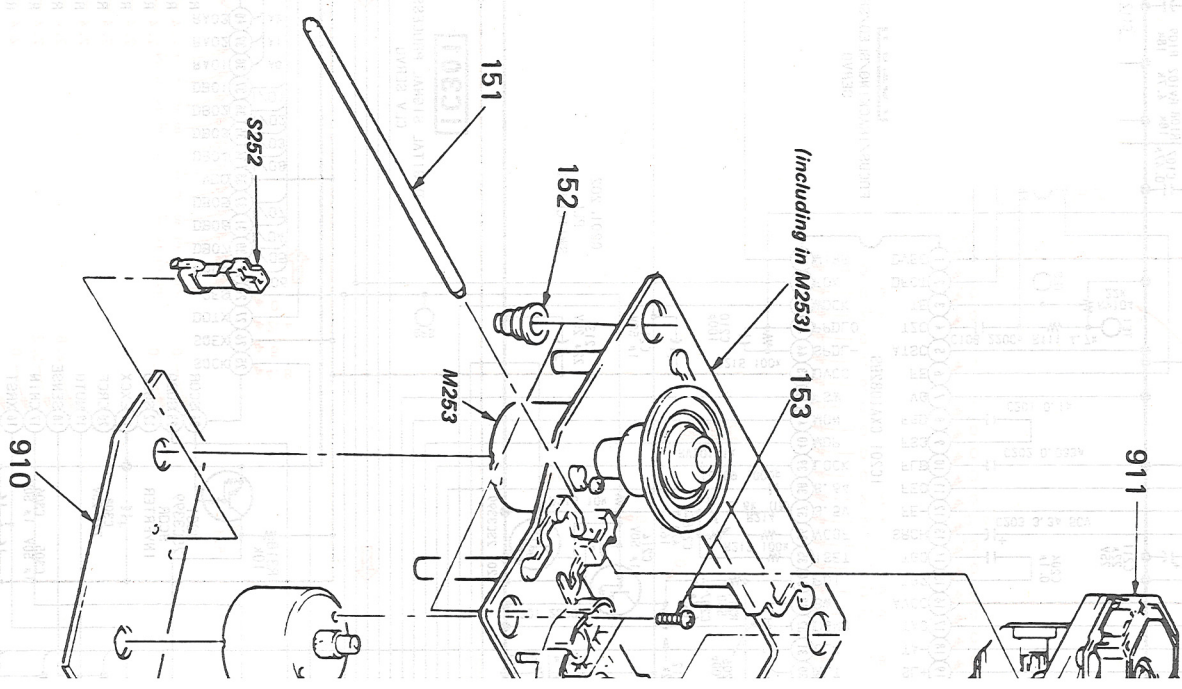
(2) MD Section (CDM9-5)



No.	Part No.	Description	Remarks
101	*4-922-515-01	TABLE, DISK	
102	*4-929-066-01	REINFORCEMENT (MG)	
103	7-685-546-11	SCREW +BTP 3X8 TYPE2 N-S	
104	A-4665-024-A	MAGNET ASSY	
105	*4-918-679-04	PULLEY, PRESS	
106	4-917-519-01	LEVER, SET	
107	4-917-514-01	SPRING, TENSION	
108	4-922-508-01	GEAR (DRIVING)	
109	4-917-541-01	SPRING (B)	
110	4-917-508-01	HOLDER, SP	
111	7-685-535-11	SCREW +BTP 2.6X10 TYPE2 N-S	
112	*4-922-529-01	DAMPER	
113	4-917-515-01	ROLLER	
114	*4-922-514-01	BRACKET (BU-5)	

No.	Part No.	Description	Remarks
115	4-917-526-01	SPRING, TENSION	
116	4-917-507-01	SPRING (H)	
117	*4-922-516-01	CHASSIS (MO)	
118	7-685-152-19	GEAR, STEP	
120	4-922-511-01	GEAR (LOADING)	
121	4-922-512-01	PULLEY	
123	4-917-522-02	BELT	
124	7-621-775-20	SCREW +B 2.6X5	
125	7-621-770-67	SCREW +BTT 2.6X6 (S)	
907	*1-626-838-11	PC BOARD, L.MOTOR	
909	*1-626-837-11	PC BOARD, IN/OUT SW	
M251	A-4608-346-A	MOTOR ASSY, L	
S251	1-571-300-11	SWITCH, ROTARY	

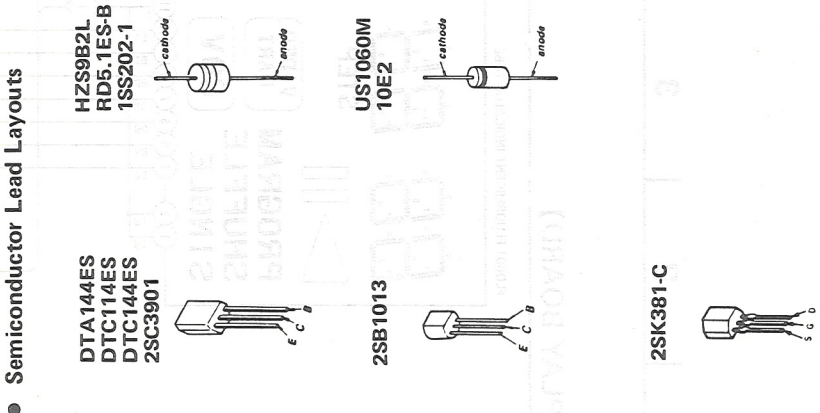
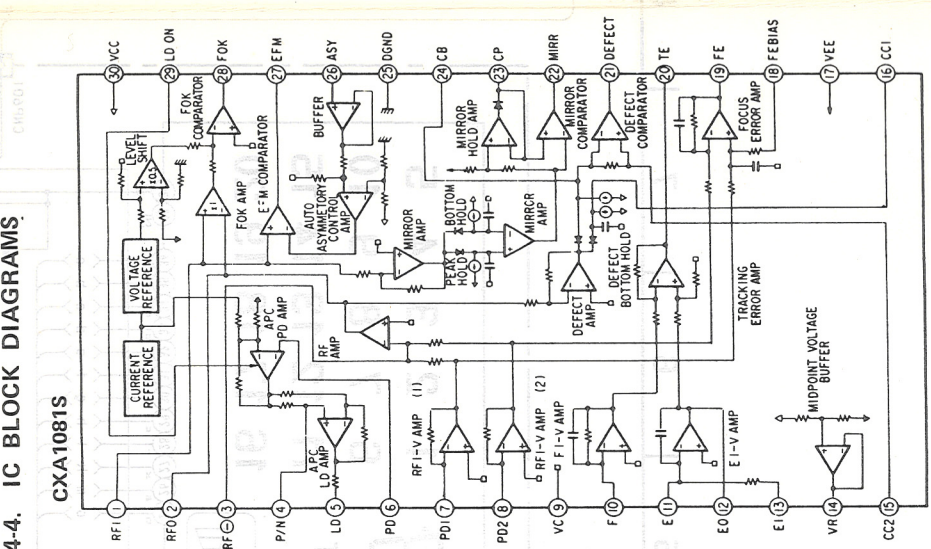
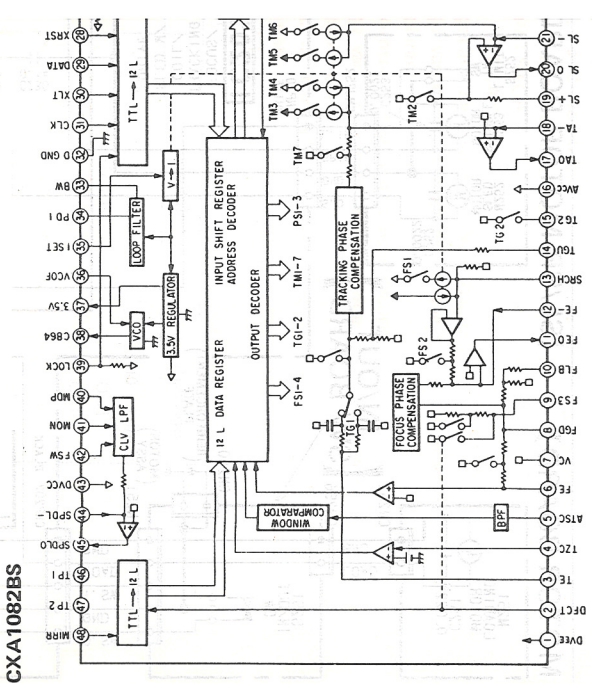
(3) OPTICAL PICK-UP BLOCK (BU-5C)



No.	Part No.	Description	Remarks
151	4-917-565-01	SHAFT, SLED	
152	4-917-562-01	INSULATOR	
153	7-621-255-15	SCREW +P 2X3	
154	4-917-567-01	GEAR (M)	
155	4-917-564-01	GEAR (P), FLATNESS	

No.	Remarks
911	
91	
CN	
M2	
S2	





● Semiconductor Lead

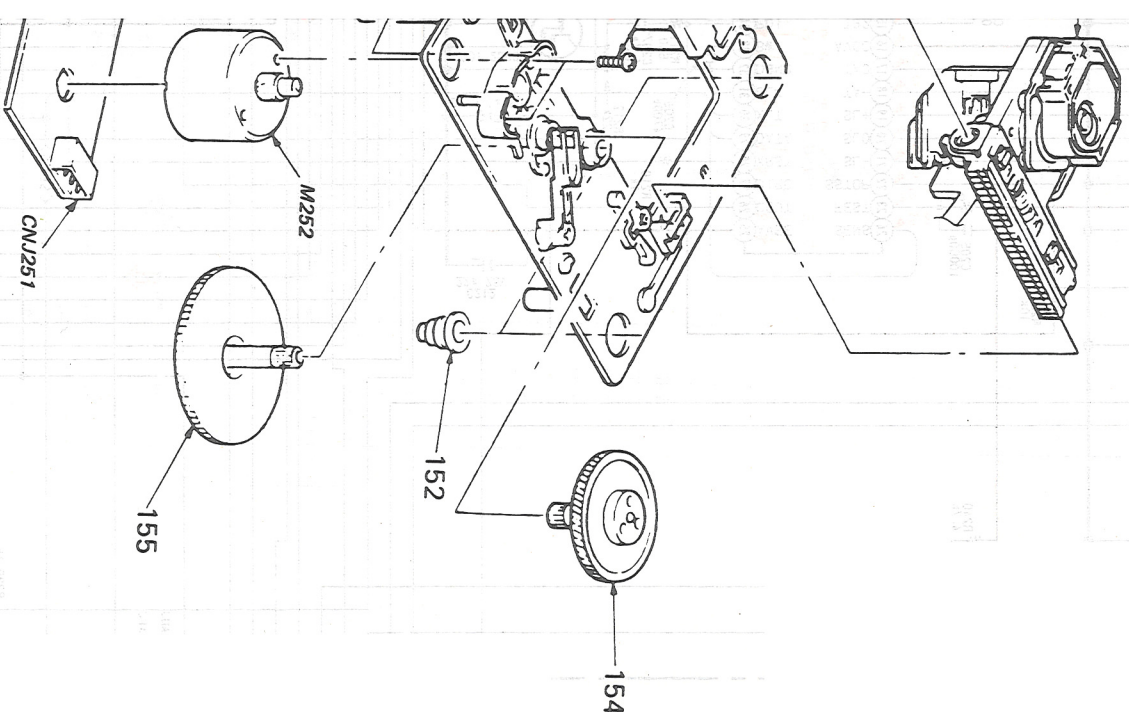
## SECTION 6 ELECTRICAL PARTS LIST

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**  
MF:  $\mu$ F, PF:  $\mu$ F.  
**RESISTORS**  
● All resistors are in ohms.  
● F: nonflammable  
**COILS**  
● MMH: mH, UH:  $\mu$ H  
**SEMICONDUCTORS**  
In each case, U:  $\mu$ , for example:  
UA...:  $\mu$ A... UPA...:  $\mu$ PA...  
UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.



arks	No.	Part No.	Description	Remarks
910	*1-624-322-11	PC BOARD, SL/SP MOTOR		
911	$\Delta$ -8-848-062-01	DEVICE, OPTICS (KSS-150A)		
CN1251	*1-564-720-21	PIN, CONNECTOR (SMALL TYPE) 4P		
M252	X-4917-504-1	ASSY, MOTOR (SLED)		
M253	X-4917-523-1	ASSY, MOTOR (SPINDLE)		
S252	1-571-274-11	SWITCH, LEAF (LIMIT IN)		

**Note:** The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
901	*1-628-611-11	PC BOARD, POWER SWITCH	C208	1-124-477-11	ELECT
902	*1-628-610-11	PC BOARD, KEY BOARD	C209	1-162-294-31	CERAMIC
903	*1-628-609-11	PC BOARD, DISPLAY	C210	1-162-282-31	CERAMIC
904	*A-4651-232-A	(AEP, UK) ... MOUNTED PCB, MAIN	C211	1-126-233-11	ELECT
905	*A-4651-233-A	(E) ... MOUNTED PCB, MAIN	C212	1-126-233-11	ELECT
906	*1-551-188-X	(E) ... CORD, POWER	C213	1-126-233-11	ELECT
907	*1-626-838-11	PC BOARD, L. MOTOR	C214	1-124-499-11	ELECT
908	*1-628-612-11	PC BOARD, HEADPHONE	C215	1-124-499-11	ELECT
909	*1-626-837-11	PC BOARD, IN/OUT SW	C216	1-124-499-11	ELECT
910	$\Delta$ -1-624-322-11	PC BOARD, SL/SP MOTOR	C217	1-161-375-00	CERAMIC
911	$\Delta$ -8-848-062-01	DEVICE, OPTICS (KSS-150A)	C218	1-162-291-31	CERAMIC
912	$\Delta$ -1-526-565-00	(E) ... AC PLUG ADAPTOR	C219	1-123-875-11	ELECT
C001	1-126-017-11	ELECT	C220	1-136-165-00	FILM
C002	1-124-887-00	ELECT	C221	1-124-499-11	ELECT
C003	1-124-927-11	ELECT	C222	1-126-101-11	ELECT
C004	1-124-927-11	ELECT	C223	1-126-101-11	ELECT
C005	1-123-875-11	ELECT	C224	1-126-101-11	ELECT
C006	1-164-159-11	CERAMIC	C225	1-126-101-11	ELECT
C007	1-124-472-11	ELECT	C226	1-126-101-11	ELECT
C008	1-124-472-11	ELECT	C227	1-126-101-11	ELECT
C009	1-124-572-11	ELECT	C228	1-126-101-11	ELECT
C010	1-124-122-11	ELECT	C229	1-164-159-11	CERAMIC
C011	1-161-375-00	CERAMIC	C230	1-164-159-11	CERAMIC
C012	1-124-477-11	ELECT	C231	1-136-157-00	FILM
C013	1-162-294-31	CERAMIC	C232	1-130-475-00	WTLAR
C014	1-162-294-31	CERAMIC	C233	1-130-475-00	WTLAR
C015	1-162-199-31	CERAMIC	C234	1-126-101-11	ELECT
C016	1-162-199-31	CERAMIC	C235	1-126-101-11	ELECT
C017	1-136-173-00	FILM	C236	1-126-101-11	ELECT
C018	1-161-375-00	CERAMIC	C237	1-126-101-11	ELECT
C019	1-136-153-00	FILM	C238	1-126-101-11	ELECT
C020	1-136-153-00	FILM	C239	1-126-101-11	ELECT
C021	1-136-153-00	FILM	C240	1-126-101-11	ELECT
C022	1-136-159-00	FILM	C241	1-126-101-11	ELECT
C023	1-123-382-00	ELECT	C242	1-126-101-11	ELECT
C024	1-136-165-00	FILM	C243	1-126-101-11	ELECT
C205	1-161-379-00	CERAMIC	C244	1-126-101-11	ELECT
C206	1-161-377-00	CERAMIC	C245	1-126-101-11	ELECT
C207	1-124-927-11	ELECT	C246	1-126-101-11	ELECT



Ref.No.	Part No.	Description
C415	1-162-294-31	CERAMIC 0.001MF 10% 50V
C501	1-124-234-00	ELECT 22MF 20% 16V
C502	1-124-234-00	ELECT 22MF 20% 16V
C503	1-162-290-31	CERAMIC 470PF 10% 50V
C504	1-162-290-31	CERAMIC 470PF 10% 50V
C505	1-164-159-11	CERAMIC 0.1MF 50V
C601	1-164-159-11	CERAMIC 0.1MF 50V
C602	1-164-159-11	CERAMIC 0.1MF 50V
C603	1-162-290-31	CERAMIC 470PF 10% 50V
C604	1-162-290-31	CERAMIC 470PF 10% 50V
C605	1-162-290-31	CERAMIC 470PF 10% 50V
C606	1-164-159-11	CERAMIC 0.1MF 50V
C607	1-162-290-31	CERAMIC 470PF 10% 50V
CN256	*1-564-495-11	PIN, CONNECTOR 2P
CN260	*1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P
CNJ604	1-535-743-11	JUMPER, FILM (WITH TERMINAL)
CNP001	*1-564-340-00	PIN, CONNECTOR 6P
CNP101	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P
CNP102	*1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P
CNP103	*1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P
CNP201	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P
CNP202	*1-564-339-61	PIN, CONNECTOR 5P
CNP204	1-566-908-11	SOCKET, CONNECTOR 32P
CNP401	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P
CNP501	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P
D001	8-719-200-02	DIODE 10E2
D002	8-719-200-02	DIODE 10E2
D003	8-719-200-02	DIODE 10E2
D004	8-719-200-02	DIODE 10E2
D005	8-719-200-02	DIODE 10E2
D006	8-719-109-89	DIODE RD5.1ES-B2
D401	8-719-107-94	DIODE 1SS202-1
D601	8-719-000-26	DIODE US1060M
D602	8-719-000-26	DIODE US1060M
D603	8-719-000-26	DIODE US1060M
D604	8-719-000-26	DIODE US1060M
D605	8-719-000-26	DIODE US1060M
D606	8-719-000-26	DIODE US1060M
D607	8-719-000-26	DIODE US1060M
D608	8-719-933-57	DIODE HZS9B2L
FLD601	1-519-475-11	INDICATOR TUBE, FLUORESCENT
IC001	8-759-631-40	IC M5294P
IC002	8-759-605-43	IC M5231TL
IC101	8-752-034-00	IC CXA1081S
IC201	8-752-032-30	IC CXA1082BS

Ref.No.	Part No.	Description
IC202	8-752-035-28	IC CXA-1291P
IC203	8-752-035-28	IC CXA-1291P
IC301	8-752-328-62	IC CXD1125Q
IC302	8-752-323-64	IC CXK5816M-12L
IC303	8-752-328-72	IC CXD2550P
IC304	8-759-977-71	IC GP1F31T (OPTICAL DIGITAL OUT)
IC305	8-759-605-44	IC M74HC6004P
IC401	8-759-937-95	IC PCM56P-S
IC402	8-759-937-95	IC PCM56P-S
IC403	8-759-945-58	IC RC4558P
IC501	8-759-745-56	IC NJM4556D
IC601	8-759-980-34	IC MSC6458-36SS
IC602	8-749-920-03	IC GP1U52
J401	1-566-921-11	JACK, PIN 2P (LINE OUT L/R)
J501	1-507-796-71	JACK, LARGE TYPE (HEADPHONES)
L301	*1-410-858-11	INDUCTOR 0UH
M251	A-4608-346-A	MOTOR ASSY, L
M252	X-4917-504-1	MOTOR ASSY (SLED)
M253	X-4917-523-1	MOTOR ASSY (SPINDLE)
Q001	8-729-600-94	TRANSISTOR 2SK381-C
Q101	8-729-801-43	TRANSISTOR 2SB1013
Q201	8-729-900-80	TRANSISTOR DTC114ES
Q202	8-729-900-89	TRANSISTOR DTC144ES
Q301	8-729-900-89	TRANSISTOR DTC144ES
Q401	8-729-806-26	TRANSISTOR 2SC3901
Q402	8-729-806-26	TRANSISTOR 2SC3901
Q403	8-729-900-65	TRANSISTOR DTA144ES
Q404	8-729-900-89	TRANSISTOR DTC144ES
Q407	8-729-806-27	TRANSISTOR 2SC3901
Q408	8-729-806-26	TRANSISTOR 2SC3901
Q601	8-729-900-80	TRANSISTOR DTC114ES
Q602	8-729-900-80	TRANSISTOR DTC114ES
Q603	8-729-900-80	TRANSISTOR DTC114ES
R001	1-249-439-11	CARBON 68K 5% 1/4W
R002	1-249-423-11	CARBON 3.3K 5% 1/4W
R003	1-249-417-11	CARBON 1K 5% 1/4W
R004	1-249-429-11	CARBON 10K 5% 1/4W
R101	1-247-864-11	CARBON 24K 5% 1/4W
R104	1-249-397-11	CARBON 22 5% 1/4W
R105	1-247-806-11	CARBON 91 5% 1/4W
R106	1-249-433-11	CARBON 22K 5% 1/4W
R108	1-249-432-11	CARBON 18K 5% 1/4W
R109	1-249-432-11	CARBON 18K 5% 1/4W
R110	1-249-425-11	CARBON 4.7K 5% 1/4W
R111	1-249-425-11	CARBON 4.7K 5% 1/4W

Ref.No.	Part No.	Description
R112	1-249-417-11	CARBON 1K 5% 1/4W
R201	1-247-882-11	CARBON 130K 5% 1/4W
R202	1-249-432-11	CARBON 18K 5% 1/4W
R203	1-249-432-11	CARBON 18K 5% 1/4W
R204	1-249-440-11	CARBON 82K 5% 1/4W
R205	1-247-889-00	CARBON 270K 5% 1/4W
R206	1-249-435-11	CARBON 33K 5% 1/4W
R207	1-249-423-11	CARBON 3.3K 5% 1/4W
R208	1-249-425-11	CARBON 4.7K 5% 1/4W
R209	1-247-896-11	CARBON 510K 5% 1/4W
R210	1-249-417-11	CARBON 1K 5% 1/4W
R211	1-249-414-11	CARBON 560 5% 1/4W
R212	1-249-433-11	CARBON 22K 5% 1/4W
R213	1-249-441-11	CARBON 100K 5% 1/4W
R214	1-215-434-00	METAL 3.6K 1% 1/6W
R215	1-249-441-11	CARBON 100K 5% 1/4W
R216	1-249-429-11	CARBON 10K 5% 1/4W
R217	1-247-881-00	CARBON 120K 5% 1/4W
R218	1-249-427-11	CARBON 6.8K 5% 1/4W
R219	1-249-435-11	CARBON 33K 5% 1/4W
R220	1-249-437-11	CARBON 47K 5% 1/4W
R221	1-247-882-11	CARBON 130K 5% 1/4W
R222	1-247-883-00	CARBON 150K 5% 1/4W
R223	1-247-882-11	CARBON 130K 5% 1/4W
R224	1-247-883-00	CARBON 150K 5% 1/4W
R225	1-249-429-11	CARBON 10K 5% 1/4W
R230	1-249-393-11	CARBON 10 5% 1/4W
R231	1-249-393-11	CARBON 10 5% 1/4W
R236	1-249-417-11	CARBON 1K 5% 1/4W
R237	1-249-417-11	CARBON 1K 5% 1/4W
R238	1-249-417-11	CARBON 1K 5% 1/4W
R239	1-249-417-11	CARBON 1K 5% 1/4W
R240	1-249-425-11	CARBON 4.7K 5% 1/4W
R301	1-247-903-00	CARBON 1M 5% 1/4W
R302	1-249-433-11	CARBON 22K 5% 1/4W
R303	1-249-429-11	CARBON 10K 5% 1/4W
R304	1-249-441-11	CARBON 100K 5% 1/4W
R305	1-249-441-11	CARBON 100K 5% 1/4W
R306	1-249-429-11	CARBON 10K 5% 1/4W
R307	1-215-469-00	METAL 100K 1% 1/6W
R308	1-215-469-00	METAL 100K 1% 1/6W
R310	1-249-417-11	CARBON 1K 5% 1/4W
R311	1-249-417-11	CARBON 1K 5% 1/4W
R312	1-249-417-11	CARBON 1K 5% 1/4W
R314	1-249-411-11	CARBON 330 5% 1/4W

Ref.No.	Part No.	Description
R315	1-249-411-11	CARBON 330 5% 1/4W
R316	1-249-411-11	CARBON 330 5% 1/4W
R318	1-249-429-11	CARBON 10K 5% 1/4W
R319	1-249-411-11	CARBON 330 5% 1/4W
R320	1-249-411-11	CARBON 330 5% 1/4W
R401	1-249-416-11	CARBON 820 5% 1/4W
R402	1-249-416-11	CARBON 820 5% 1/4W
R403	1-249-416-11	CARBON 820 5% 1/4W
R404	1-249-416-11	CARBON 820 5% 1/4W
R405	1-247-891-00	CARBON 330K 5% 1/4W
R406	1-247-891-00	CARBON 330K 5% 1/4W
R407	1-249-409-11	CARBON 220 5% 1/4W
R408	1-249-409-11	CARBON 220 5% 1/4W
R409	1-249-409-11	CARBON 220 5% 1/4W
R410	1-249-409-11	CARBON 220 5% 1/4W
R411	1-249-414-11	CARBON 560 5% 1/4W
R412	1-249-414-11	CARBON 560 5% 1/4W
R413	1-249-405-11	CARBON 100 5% 1/4W
R414	1-249-405-11	CARBON 100 5% 1/4W
R415	1-249-441-11	CARBON 100K 5% 1/4W
R416	1-249-433-11	CARBON 22K 5% 1/4W
R417	1-249-433-11	CARBON 22K 5% 1/4W
R501	1-249-417-11	CARBON 1K 5% 1/4W
R502	1-249-417-11	CARBON 1K 5% 1/4W
R503	1-249-423-11	CARBON 3.3K 5% 1/4W
R504	1-249-423-11	CARBON 3.3K 5% 1/4W
R505	1-249-433-11	CARBON 22K 5% 1/4W
R506	1-249-433-11	CARBON 22K 5% 1/4W
R507	1-249-402-11	CARBON 56 5% 1/4W
R508	1-249-402-11	CARBON 56 5% 1/4W
R601	1-249-435-11	CARBON 33K 5% 1/4W
R602	1-249-435-11	CARBON 33K 5% 1/4W
R603	1-249-435-11	CARBON 33K 5% 1/4W
R604	1-249-435-11	CARBON 33K 5% 1/4W
R605	1-249-435-11	CARBON 33K 5% 1/4W
R606	1-249-435-11	CARBON 33K 5% 1/4W
R607	1-249-435-11	CARBON 33K 5% 1/4W
R611	1-249-425-11	CARBON 4.7K 5% 1/4W
R612	1-249-425-11	CARBON 4.7K 5% 1/4W
R613	1-249-425-11	CARBON 4.7K 5% 1/4W
R614	1-249-425-11	CARBON 4.7K 5% 1/4W
RV101	1-228-995-00	RES, ADJ, CARBON 22K
RV102	1-228-993-00	RES, ADJ, CARBON 4.7K
RV103	1-228-995-00	RES, ADJ, CARBON 22K
RV104	1-228-995-00	RES, ADJ, CARBON 22K



Ref.No.	Part No.	Description
RV201	1-228-990-00	RES, ADJ, METAL GLAZE 1K
RV201	1-238-394-11	RES, ADJ, METAL GLAZE 1K
RV501	1-238-403-21	RES, VAR, CARBON 20K/20K (LEVEL)
S001	△1-571-722-11	(E)...SWITCH, VOLTAGE SELECTOR (VOLTAGE SELECTOR)
S251	1-571-300-11	SWITCH, ROTARY
S252	1-571-274-11	LEAF SWITCH (LIMIT IN)
S601	1-554-596-21	SWITCH, KEY BOARD (17)
S602	1-554-596-21	SWITCH, KEY BOARD (18)
S603	1-554-596-21	SWITCH, KEY BOARD (19)
S604	1-554-596-21	SWITCH, KEY BOARD (20)
S605	1-554-596-21	SWITCH, KEY BOARD (16)
S606	1-554-596-21	SWITCH, KEY BOARD (11)
S607	1-554-596-21	SWITCH, KEY BOARD (12)
S608	1-554-596-21	SWITCH, KEY BOARD (13)
S609	1-554-596-21	SWITCH, KEY BOARD (14)
S610	1-554-596-21	SWITCH, KEY BOARD (15)
S611	1-554-596-21	SWITCH, KEY BOARD (>20)
S612	1-554-596-21	SWITCH, KEY BOARD (6)
S613	1-554-596-21	SWITCH, KEY BOARD (7)
S614	1-554-596-21	SWITCH, KEY BOARD (8)
S615	1-554-596-21	SWITCH, KEY BOARD (9)
S616	1-554-596-21	SWITCH, KEY BOARD (10)
S617	1-554-596-21	SWITCH, KEY BOARD (FADER)
S618	1-554-596-21	SWITCH, KEY BOARD (1)
S619	1-554-596-21	SWITCH, KEY BOARD (2)
S620	1-554-596-21	SWITCH, KEY BOARD (3)
S621	1-554-596-21	SWITCH, KEY BOARD (4)
S622	1-554-596-21	SWITCH, KEY BOARD (5)
S623	1-554-596-21	SWITCH, KEY BOARD (◀)
S624	1-554-596-21	SWITCH, KEY BOARD (▶)
S625	1-554-596-21	SWITCH, KEY BOARD (EDIT/TIME FADE)
S626	1-554-596-21	SWITCH, KEY BOARD (CHECK)
S627	1-554-596-21	SWITCH, KEY BOARD (CLEAR)
S628	1-554-596-21	SWITCH, KEY BOARD (◀◀)
S629	1-554-596-21	SWITCH, KEY BOARD (▶▶)
S630	1-554-596-21	SWITCH, KEY BOARD (△OPEN/CLOSE)
S631	1-554-596-21	SWITCH, KEY BOARD (▷)
S632	1-554-596-21	SWITCH, KEY BOARD (  )
S633	1-554-596-21	SWITCH, KEY BOARD (■)
S634	1-554-596-21	SWITCH, KEY BOARD (REPEAT)
S635	1-554-596-21	SWITCH, KEY BOARD (PROGRAM)
S636	1-554-596-21	SWITCH, KEY BOARD (SHUFFLE)
S637	1-554-596-21	SWITCH, KEY BOARD (CONTINUE/SINGLE)
S638	1-554-596-21	SWITCH, KEY BOARD (AUTO SPACE)
S639	1-554-596-21	SWITCH, KEY BOARD (TIME)
S640	1-571-305-11	SWITCH, PUSH (1 KEY)(POWER)

Ref.No.	Part No.	Description
T901	△1-449-025-11	(AEP,UK)...TRANSFORMER, POWER
T901	△1-449-026-11	(E).....TRANSFORMER, POWER
X301	1-567-926-11	VIBRATOR, CRYSTAL (16.9344MHz)
X601	1-577-082-11	VIBRATOR, CERAMIC (4MHz)
ACCESSORY & PACKING MATERIAL		
1-465-051-11	REMOTE COMMANDER (RM-D270)	
1-558-543-11	CORD, CONNECTION	
3-786-618-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)	
3-786-618-41	(AEP)....MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)	
*3-795-629-11	(AEP)....INSTRUCTION CUSHION	
*4-922-998-01	INDIVIDUAL CARTON	
*4-927-316-11	COVER, BATTERY (FOR REMOTE COMMANDER)	
4-928-079-01	SHEET, PROTECTION (500MM)	
7-632-650-75		

## Troubleshooting Guide

Symptom	Cause	Remedy
The disc tray does not close.	The disc is not placed correctly.	Place the disc correctly on the disc tray.
Play does not start.	Dirty disc.	Clean the disc.
	The disc is inserted upside down.	Insert the disc with the printed side up.
	is engaged.	Press    again to release it.
Sound is not heard.	Moisture condensation.	Leave the player turned on for approximately one hour.
	Loose connection.	Insert the plug firmly.
Play does not begin from the first selection.	Connection is incorrect.	Check the connection.
	The player is in the PROGRAM or SHUFFLE mode.	Press CONTINUE.
Play begins only by turning on the power.	A disc is in the tray.	—
The remote commander does not operate the unit.	The batteries are run down.	Replace both batteries.
	The remote commander is not pointed at the remote sensor.	Point the remote commander at the sensor.
	There is an obstacle between the remote commander and the unit.	Remove the obstacle.
	The remote commander is too far from the unit.	Move closer.
Any operation is not possible.	The internal control program may not run.	Turn off the power and turn it on again.

**Note:** The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

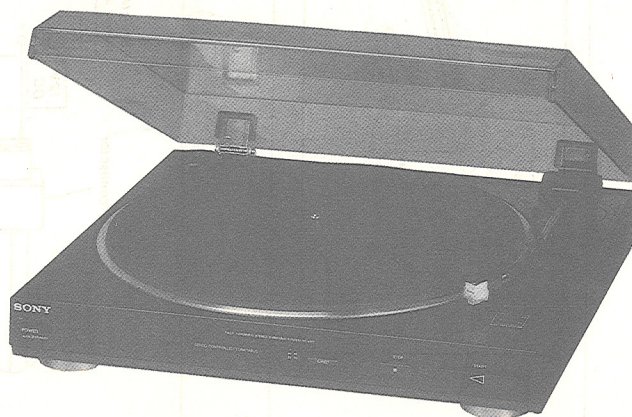


# PS-V701/V701P

## SERVICE MANUAL

*AEP Model*  
PS-V701

*UK Model*  
PS-V701P



**PS-V701P is the STEREO  
TURNTABLE SYSTEM  
in LBT-V701CD/V701CDG**

This photo is PS-V701.

### SPECIFICATIONS

<b>Turntable</b>	
Platter	30 cm (12 in.)
Motor	DC servo motor
Drive system	Belt drive
Speed	33 $\frac{1}{3}$ rpm/45 rpm switchable
Wow and flutter	0.15% (WRMS)
Signal-to-noise ratio	65 dB (DIN-B)
Automatic system	Return, reject, lead in.

<b>Tonearm</b>	
Type	Dynamically balanced
Pivot-to stylus length	206 mm (7 $\frac{7}{8}$ in.)
Overall arm length	235 mm (9 $\frac{3}{8}$ in.)

<b>Cartridge</b>	
Type	Moving magnet type
Frequency response	20 Hz–20kHz
Stylus	ND-155G

<b>General</b>	
Dimensions	355 × 100 × 340 mm (w/h/d) (14 × 4 × 13 $\frac{1}{2}$ inches)
Weight	Approx. 2.6 kg (4 lb 14 oz)
Power requirements	220 V AC, 50/60 Hz
Power consumption	2 W
Accessory supplied	45-rpm adaptor (1)
Optional accessory	Replacement stylus ND-155G

Design and specifications subject to change without notice.

**Note**  
This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

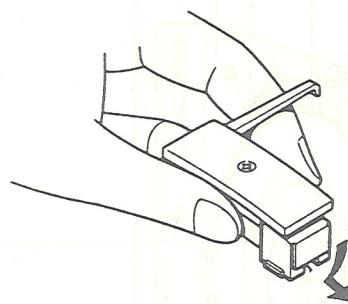
### Note for Cartridge

Be careful not to use any cartridge except for specified one (Part No.: 1-549-135-11) as balance weight of pick up arm assy is fixed.

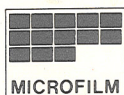
### REPLACING THE STYLUS

Replace the stylus after about 400 hours of use because using a worn stylus will damage records.  
An ND-155G replacement stylus is available at your Sony dealer.  
Be sure to turn the amplifier off before proceeding with replacement.

- 1 While holding the cartridge, detach the stylus assembly as illustrated.
- 2 Insert the new stylus into the cartridge.

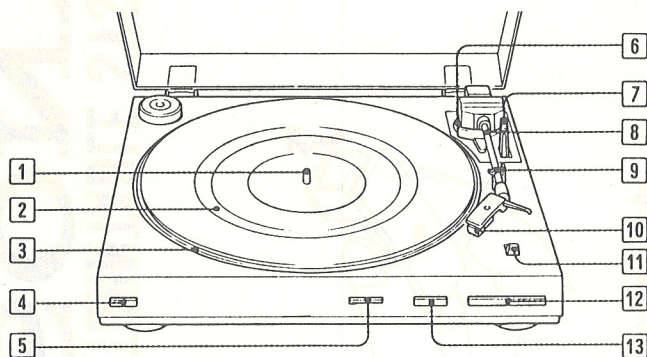


**STEREO TURNTABLE SYSTEM**  
**SONY®**





## 1-1. LOCATION AND FUNCTION OF CONTROLS



- 1** Center spindle
- 2** Rubber mat
- 3** Turntable platter
- 4** POWER switch
- 5** SPEED select button  
Allows selection of 45 rpm or 33 rpm turntable speed.
- 6** Drop point adjustment hole
- 7** Cueing lever (▼/▲)
- 8** Tonearm
- 9** Arm rest
- 10** Cartridge
- 11** SIZE SELECTOR  
Allows selection of 17 cm (7 inch) or 30 cm (12 inch) records.
- 12** ◁(start) button
- 13** ■ (stop) button

## 1-2. TONEARM DROP-POINT ADJUSTMENT

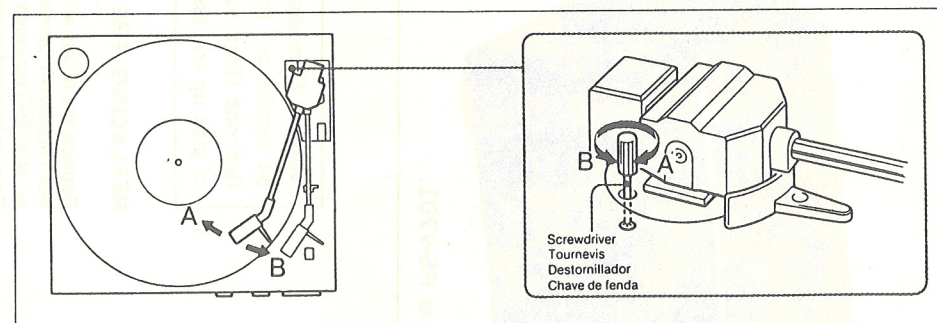
The tonearm drop-point during auto play has been factory-adjusted. If necessary, readjust it as follows.

**To move the drop-point toward A,** turn the adjustment screw clockwise with a screwdriver.

**To move the drop-point toward B,** turn the adjustment screw counterclockwise with a screwdriver.

**If the tonearm does not return to the arm rest automatically after play**

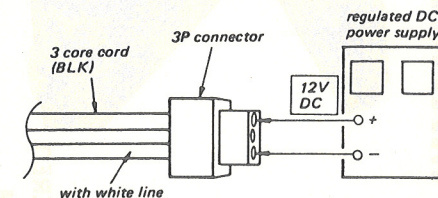
Turn the adjustment screw counterclockwise.



## REPAIRING PRECAUTION (PS-V701 only)

## [To supply B+ voltage]

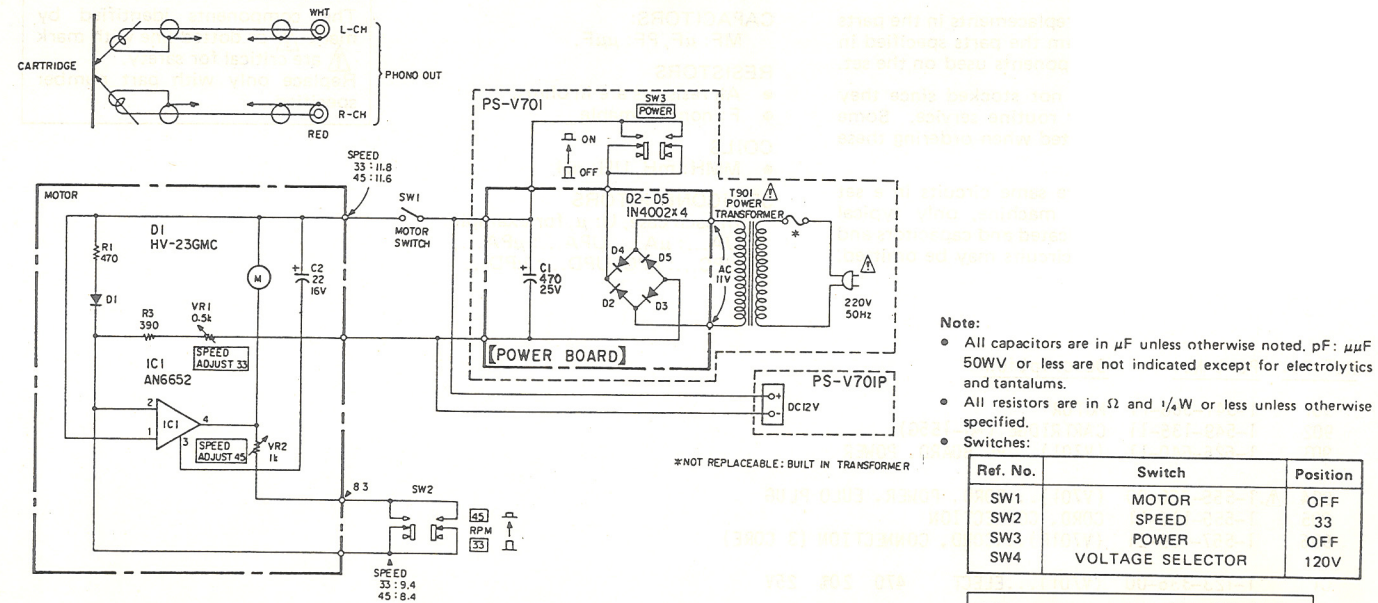
The power of this unit is fed from TA-V701. Because of this, connect the regulated DC power supply as illustrated right when this unit alone operates.



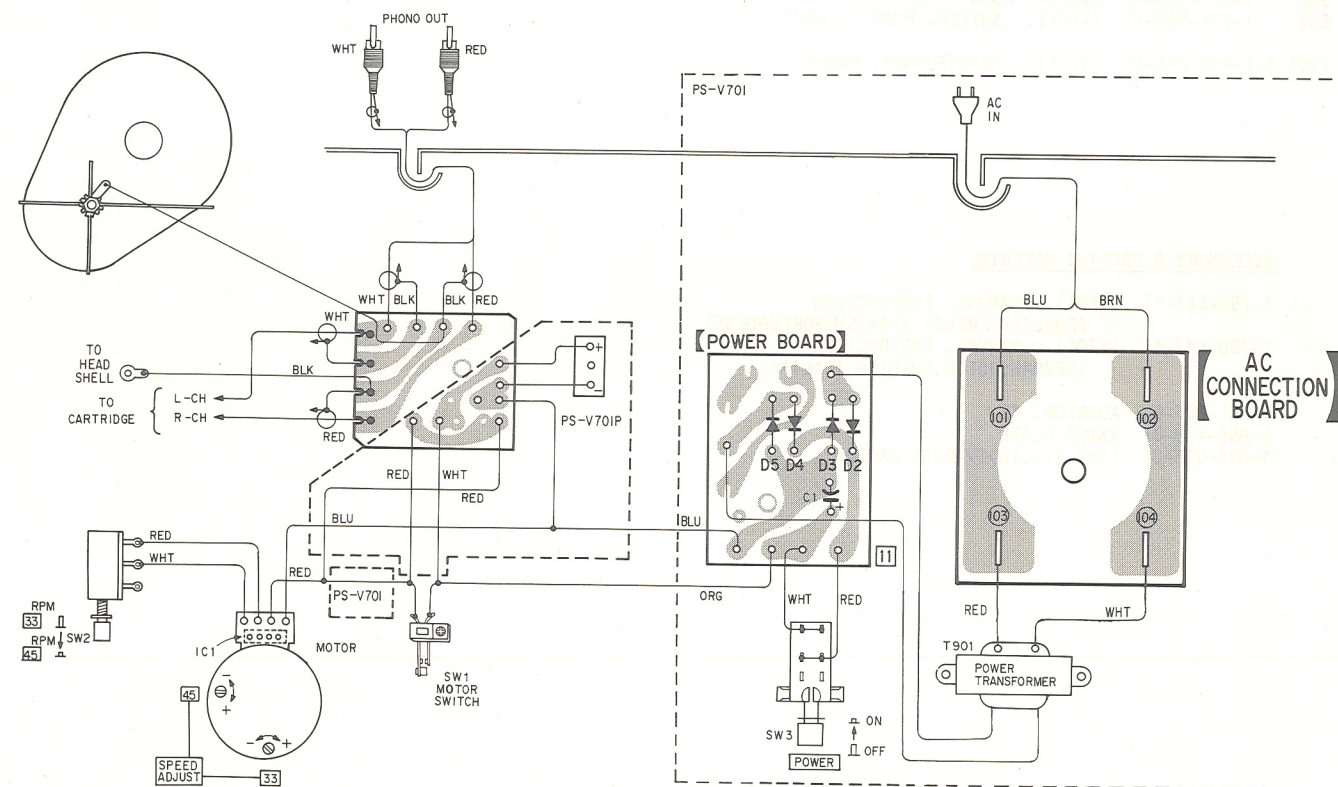


## SECTION 2 DIAGRAMS

### 2-1. SCHEMATIC DIAGRAM

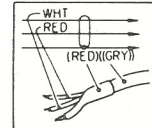


### 2-2. WIRING DIAGRAM



**Note:**

- Color code of sleeving over the end of the jacket.



- : parts extracted from the component side.

## SECTION 3 EXPLODED VIEWS

### NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

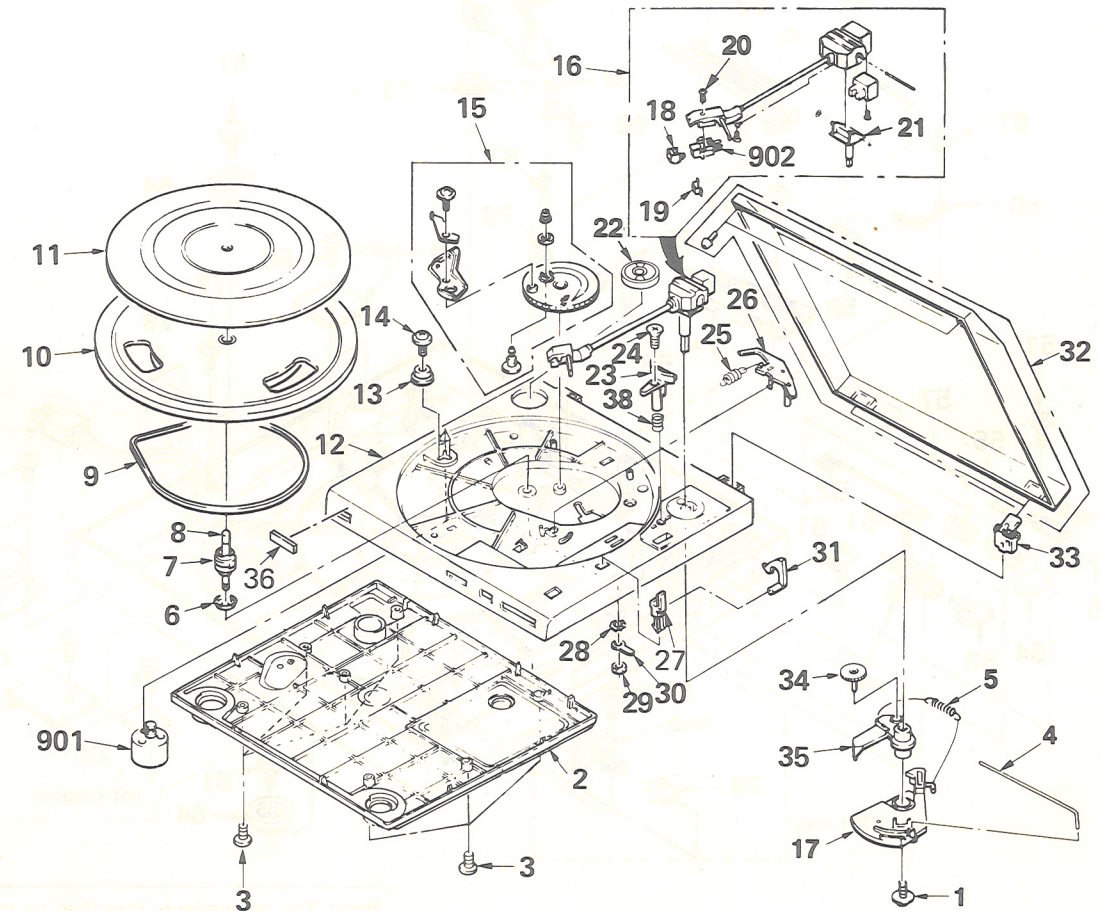
- Color Indication of Appearance Parts Example: (RED) ... KNOB, BALANCE (WHITE)

Cabinet's Color

Parts Color

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

(1)

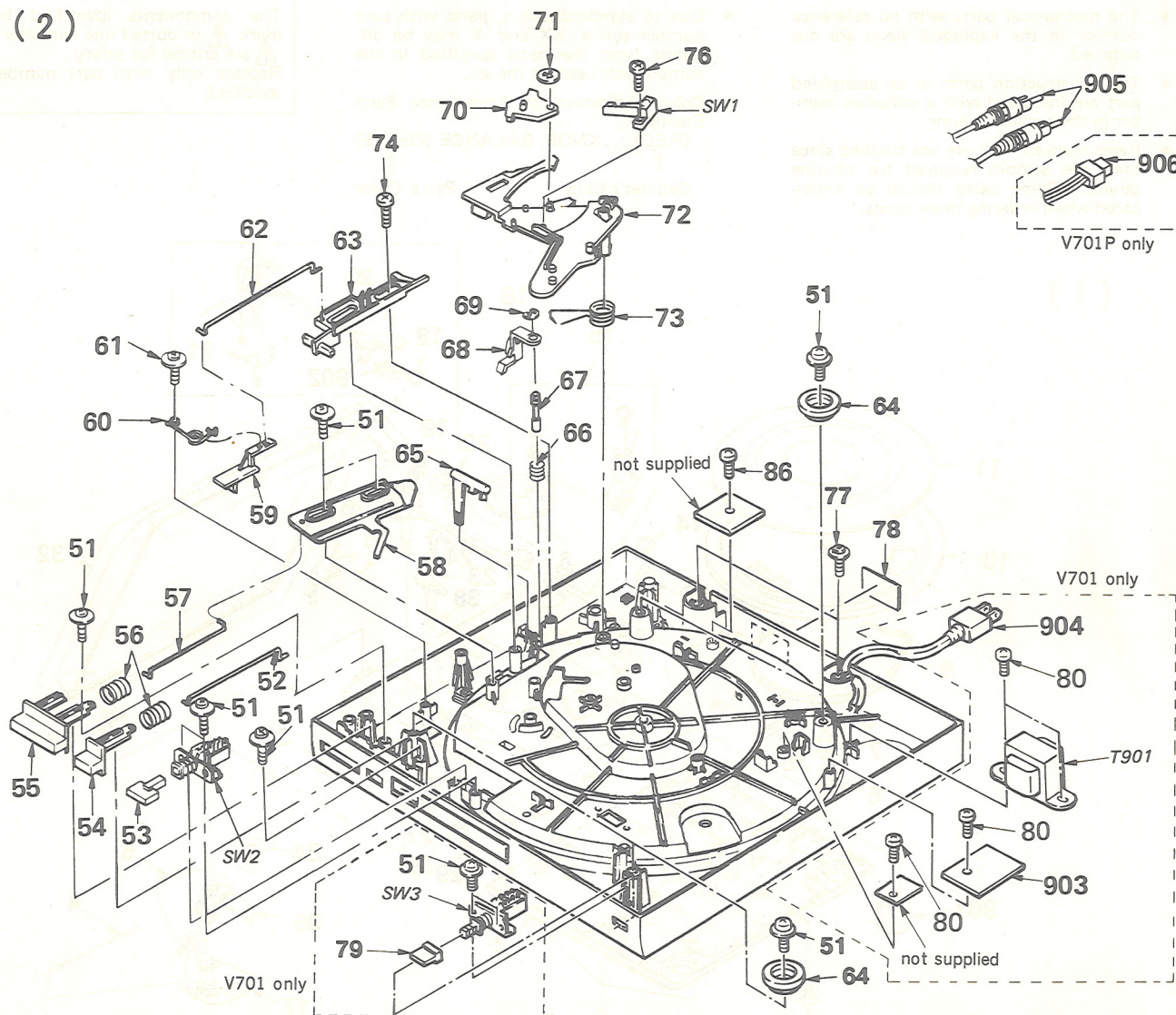


No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	4-896-509-01	SCREW (7-BID 3012 ZN3A 12D)		21	4-895-464-01	P.U. HINGE BRACKET	
2	*4-896-217-01	BOARD, BOTTOM		22	3-701-806-00	ADAPTOR, 45	
3	7-685-647-79	SCREW		23	4-896-258-01	PLATFORM, LIFT	
4	*4-896-264-01	ROD, TRIP		24	7-621-561-49	SCREW	
5	4-895-460-01	ADJUST SPRING		25	4-896-262-01	SPRING	
6	4-896-210-01	WASHER		26	4-896-505-01	LEVER, REJECT	
7	4-896-233-01	GEAR, T/T		27	4-895-417-01	P.U. REST	
8	4-896-232-01	SPINDLE		28	7-623-424-07	W GEAR 0003 ZN3A	
9	4-880-655-01	BELT		29	7-684-024-04	NUT 50 ZN3A	
10	4-909-060-01	TURNABLE		30	4-896-508-01	TERMINAL, GROUND	
11	4-895-478-01	INNER PLATE		31	4-895-418-01	P.U. TUBE HOOK	
12	4-896-506-01	(V701) ... CABINET		32	4-895-480-01	DUST COVER ASSY	
	4-896-511-01	(V701P) ... CABINET		33	4-895-410-01	HINGE ASSY	
13	4-896-507-01	GROMMET (A)		34	4-895-458-01	ADJUST CAM	
14	7-685-646-79	SCREW		35	4-896-223-01	LINK (A), RETURN	
15	X-4895-409-1	GEAR ASSY, CAM		36	4-925-161-21	EMBLEM (4-A), SONY	
16	X-4895-410-1	ARM ASSY		38	4-896-267-01	SPRING (A)	
17	4-896-224-01	LINK (B), RETURN		901	1-541-568-11	MOTOR	
18	1-549-132-11	BEAM		902	1-549-135-11	CARTRIDGE (ND-155G)	
19	4-895-474-01	COVER, BEAM					
20	7-627-553-98	SCREW					



## SECTION 4 ELECTRICAL PARTS LIST

(2)



Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

### NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:  
MF:  $\mu$ F, PF:  $\mu$ F.

### RESISTORS

- All resistors are in ohms.
- F: nonflammable

### COILS

- MMH: mH, UH:  $\mu$ H

### SEMICONDUCTORS

In each case, U:  $\mu$ , for example:  
UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,  
UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description
901	1-541-568-11	MOTOR
902	1-549-135-11	CARTRIDGE (MD-155G)
903	1-626-640-11	(V701)...PC BOARD, POWER
904	▲1-555-750-00	(V701)...CORD, POWER, EULO PLUG
905	1-555-116-11	CORD, CONNECTION
906	1-557-109-21	(V701P)...CORD, CONNECTION (3 CORE)
C1	1-123-336-00	(V701)...ELECT 470 20% 25V
D2	8-719-200-02	(V701)...DIODE 10E2
D3	8-719-200-02	(V701)...DIODE 10E2
D4	8-719-200-02	(V701)...DIODE 10E2
D5	8-719-200-02	(V701)...DIODE 10E2
SW1	1-570-666-11	SWITCH, LEAF
SW2	1-571-560-11	SWITCH, PUSH (1 KEY)
SW3	1-571-560-11	(V701)...SWITCH, PUSH (1 KEY)
T901	▲1-449-291-11	(V701)...TRANSFORMER, POWER

### ACCESSORY & PACKING MATERIAL

3-750-347-11	(V701)...MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)
3-750-347-41	(V701)...MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)
3-701-806-00	ADAPTOR, 45
4-895-478-01	INNER PLATE
*4-896-515-01	(V701)...INDIVIDUAL CARTON

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	7-685-646-79	SCREW		71	4-303-605-00	PUSH NUT DIA.3	
52	4-896-261-01	WIRE, REJECT		72	4-896-218-01	ARM, CONTROL	
53	4-896-241-01	BUTTON, SPEED		73	4-896-247-01	SPRING	
54	4-896-240-01	BUTTON, STOP		74	4-896-510-01	SCREW (7-BID 304 ZN3A)	
55	4-896-242-01	BUTTON, START		76	7-685-104-19	SCREW	
56	4-896-255-01	SPRING		77	4-896-256-01	SCREW ASSY	
57	4-896-216-01	WIRE, CONTROL ARM		78	*4-928-260-01	(V701P)...LABEL, MODEL NUMBER	
58	4-896-215-01	LEVER, CONTROL			*4-928-259-01	(V701:AE1)...LABEL, MODEL NUMBER (AE)	
59	4-896-243-01	KNOB, SPEED			*4-928-259-11	(V701:AE2)...LABEL, MODEL NUMBER (AE)	
60	4-896-244-01	SPRING		79	4-895-896-01	(V701)...BUTTON, POWER	
61	4-896-245-01	SCREW		80	7-685-647-79	SCREW	
62	*4-896-213-01	WIRE, SELECTOR		903	1-626-640-11	(V701)...PC BOARD, POWER	
63	4-896-214-01	SELECTOR, SIZE		904	▲1-555-750-00	(V701)...CORD, POWER, EULO PLUG	
64	4-895-435-01	FOOT		905	1-555-116-11	CORD, CONNECTION	
65	4-896-212-01	LEVER, CUE		906	1-557-109-21	(V701P)...CORD, CONNECTION (3 CORE)	
66	4-896-251-01	SPRING (B)		SW1	1-570-666-11	SWITCH, LEAF	
67	4-896-252-01	SHAFT, ARM LIFT		SW2	1-571-560-11	SWITCH, PUSH (1 KEY)	
68	4-896-253-01	FORK, LIFT		SW3	1-571-560-11	(V701)...SWITCH, PUSH (1 KEY)	
69	4-896-254-01	RING (DIA.3), E		T901	▲1-449-291-11	(V701)...TRANSFORMER, POWER	
70	4-896-248-01	CAM					

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